Indiana Utility Regulatory Commission

Ameritech
OSS Evaluation Project
Master Test Plan

Version 0.1 DRAFT

Contents

I. Document Control

Table I-1: Version Control

Version	Date	Reason
Draft 0.1	September 1, 2000	Initial Release

II. Introduction

A. Background

The Telecommunications Act of 1996 (the Act) requires Ameritech in Indiana to meet numerous objectives, including:

- Provision of just, reasonable and nondiscriminatory access to its operations support systems (OSS);

- Provision of the documentation and support necessary for competitive local exchange carriers (CLECs) to access and use these systems; and

- Demonstration that Ameritech's systems are operationally ready and meet prescribed performance standards.

The Indiana Utility Regulatory Commission (IURC) has ordered a comprehensive test of Ameritech's OSS and its CLEC-facing operations to assist the Commission in assessing whether Ameritech is meeting these and other requirements of the Act. Ameritech has retained KPMG Consulting, LLC to design this Master Test Plan and manage the test.

Some Ameritech-Indiana systems and processes may not be available for evaluation at the start of the test (Appendix F outlines these systems and processes). The test is not expected to conclude until such systems and processes have been implemented and evaluated.

B. Objective

The overall objective of this Master Test Plan is to describe an approach for testing Ameritech-Indiana's OSS systems, interfaces, and processes to determine whether Ameritech's provision of access to OSS functionality enables and supports CLEC entry in the local market. To meet these objectives, KPMG Consulting developed a test plan of adequate breadth and depth to evaluate the entire CLEC/ILEC relationship under real world conditions. In determining the breadth and depth of the test, all stages of the CLEC-ILEC relationship were considered. These include the following:

- Establishing the CLEC-ILEC relationship

- Performing daily CLEC-ILEC operations

- Maintaining the CLEC-ILEC relationship

A broad range of products and service delivery methods are included within the scope of the test. Furthermore, key business functions and transactions such as ordering, provisioning, billing, maintenance and repair, and account management are included in the scope of the review. Other key aspects of the test include the following:

- The test will be conducted using the most current Ameritech pre-ordering, ordering, maintenance & repair, and billing interfaces in production;

- The following interfaces will be tested: pre-order (GUI/application to application), order (GUI/EDI/ASR), maintenance & repair (GUI/application to application), and billing (usage and invoice feeds);

- The test will be conducted using the most current release of Ameritech business rules documentation;

- An evaluation of Ameritech's Local Service Ordering Guide version 4 (LSOG 4) pre-ordering and ordering interface releases will be conducted;

- The test may include certain service delivery methods, such as Enhanced Extended Links (EELs), sub-loop unbundling, and Digital Subscriber Line (DSL).

- During the production transaction tests, transactions will be sent to the Ameritech production environment.

C. Plan Overview

The test plan is organized into three test families:

- Performance Metrics Reviews (PMR)

- Policies and Procedures Reviews (PPR)

- Transaction Validations and Verifications (TVV)

Within each of the test families, the methods and processes to be applied to measure Ameritech's performance are described along with the specific points in the systems and processes where Ameritech's performance will be evaluated. The results of the test will be compared against measures and criteria identified by the IURC and other measures and criteria as deemed appropriate by the IURC.

This plan also describes the scenarios to be used for evaluating Ameritech's OSS and related support services. The scenarios were designed to depict real-world pre-ordering, ordering, provisioning, maintenance and repair, and billing situations that CLECs currently face or may face in the near future. During testing, the scenarios will be used to develop test cases that provide a detailed description of the transactions and introduce additional variables such as errors and supplements to further simulate real world transactions.

D. Audience and Test Roles

The audience for this document falls into two main categories:

1. Readers using this document during the testing process;

2. Interested parties who have some stake in the result of the Ameritech OSS evaluation and wish to have insight into the evaluation effort.

The primary users of this document are the IURC and KPMG Consulting. Others are the CLECs, Ameritech, the Department of Justice (DOJ), and the Federal Communications Commission (FCC).

Table II-1: Participant Roles

Participant	Role Description
Indiana Utility Regulatory Commission	The IURC is responsible for directing the overall testing effort. KPMG Consulting will provide results and preliminary evaluation of the results to the IURC. The IURC is responsible for the final evaluation of the test results.
KPMG Consulting, LCC	KPMG Consulting will be the Test Manager. The Test Manager has overall responsibility for the preparation of the master test plan and the management and execution of the test. This role includes preparing for and conducting the test, providing change control throughout the testing cycle, and reporting results to the IURC.
Gateway System Provider	A vendor will be retained to establish and operate an EDI gateway system which interfaces the Test Manager's OSS with Ameritech's OSS for pre-ordering and ordering.
Ameritech Indiana	Ameritech will be the test subject. In addition, Ameritech will participate in test administration activities and make available its subject matter resources to facilitate the conduct of the test.
CLECs	CLECs have been engaged in providing input to the test design and will participate in several aspects of testing. For example, KPMG Consulting will work with CLECs to develop test parameters, create test specifications, determine transaction mixes for the markets being tested in terms of volumes by transaction type, and determine reasonably expected demand levels for transaction volume tests.
Department of Justice	The Department of Justice may observe the process of developing, conducting, and evaluating the tests.
The Federal Communications Commission	The Federal Communications Commission may observe the process of developing, conducting, and evaluating the tests.

E. CLEC Simulation for Test Purposes

Several tests within this Master Test Plan require the simulation of real world business situations. To this end, numerous transactions and operations will be conducted using the systems and procedures developed by Ameritech for CLEC use. For example, during the test a wholesale account relationship will be established and system interfaces will be built to Ameritech's OSS, in accordance with Ameritech's published documentation. After setting up for "business," "customers" will be acquired and serviced by submission of orders, receipt of bills, and conduct of maintenance and repair activities. These experiences will be recorded and analyzed by KPMG Consulting.

During the test, numerous steps will be taken to ensure that the information and level of assistance provided by Ameritech is available to all CLECs and is not enhanced solely for the testing organization. To help ensure the validity of data gathered during the CLEC simulation, the following steps will be taken:

- The Test Manager will assign personnel to conduct CLEC simulation activities so that such personnel are not known as testers to Ameritech operations personnel;

- Test beds will be specified and configured to avoid detection of test transactions and situations by Ameritech operations personnel;

- The Test Manager will require testing personnel involved in CLEC simulation activities to utilize only publicly available Ameritech documents and processes;

- When dealing with Ameritech employees during CLEC simulation activities, testing personnel will behave as though they are working on a real business situation -- personnel will avoid indicating that they are conducting a test;

- Test transactions and interactions conducted under production situations are not to be announced to Ameritech beforehand;

- During testing, results from CLEC simulation testing will be compared periodically with other test data to detect differences which may suggest that the simulation data do not reflect real world situations or performance;

- A detailed record of simulation activities and results will be kept, including lists of Ameritech documents, systems, processes, and procedures used.

A significant portion of the CLEC simulation effort involves pre-ordering and ordering transactions. To facilitate these CLEC simulation activities, a vendor working at the direction of the test manager will be retained to establish and operate a gateway system which interfaces the test manager's OSS with Ameritech's OSS. This vendor will also abide by the aforementioned rules of engagement established for CLEC simulation.

F. Test Until Pass Approach

The test is expected to be conducted using a "test until pass" approach. This is believed to be in the best interest of all parties seeking an open, competitive market for local telephone services in Indiana. The process is expected to work as follows:

- If an issue or problem is encountered during the test, KPMG Consulting will inform the IURC and Ameritech by documenting an Observation or Exception describing the situation and providing an assessment:

  - An Observation will be created if KPMG Consulting determines that a test reveals one of Ameritech's practices, policies, or system characteristics might result in a negative finding in the final report;

  - An Exception will be created if KPMG Consulting determines that a test reveals one of Ameritech's practices, policies, or system characteristics is not expected to satisfy one or more of the evaluation criteria defined for the test.

- Observation and Exception status will be discussed weekly by the IURC, KPMG Consulting, and Ameritech. CLECs will be able to listen to the calls as observers and ask clarifying questions.

- CLECs will be able to view Exceptions on the IURC web site as well as provide input about them to the IURC.

- Observations may or may not become Exceptions. Some Exceptions will not have been identified previously as Observations.

- Ameritech will respond to Observations verbally and to Exceptions in writing. These responses will describe either a clarification of the issue or Ameritech's intended fix(es) to the problem. The responses will be posted on the IURC website.

- If Ameritech has made a change to a process, system, document, or performance measure in response to an Exception, KPMG Consulting will retest as appropriate unless otherwise directed by the IURC.

- KPMG Consulting and IURC will be responsible for determining when to close an Exception. If the issue raised by the Exception is not resolved, the cycle will continue to iterate until closure is reached, no further action is warranted, or the IURC specifically exempts the Exception from further testing.

- If KPMG Consulting determines that an element of Ameritech's OSS fails to perform as it is documented in materials used by CLECs (e.g., on TC Online, in handbooks, specifications and other such documentation), the documentation in question will be noted.

Because of the potential extended time involved in these activities, it may not always be possible or practical to retest all activities within the scope of this test. At the conclusion of this test, there may be some Exceptions that remain open. The IURC will decide how to proceed with such Exceptions.

G. Assumptions

This section describes the assumptions made in the development of this Test Plan.

- Ameritech will provide suitable resources in sufficient numbers to assist KPMG Consulting with the evaluation effort.

- Ameritech will provide access to appropriate documentation in the same manner as it makes such documentation available to CLECs.

- Ameritech will provide the necessary resources, facilities, and support to enable the testing organization to establish connectivity with its systems and to create the test bed required to execute the tests (e.g., secure, non-Ameritech office space; equipment; security access; customer accounts and addresses; and appropriate company codes).

- Ameritech will process test transactions as part of normal processing including the provisioning of some scenarios/test cases.

- Ameritech and, where appropriate, CLECs will provide the facilities required to execute the live scenarios.

- Ameritech and, where appropriate, CLECs will allow KPMG Consulting to observe retail and wholesale processes on-site during the evaluation effort.

- Ameritech and the CLECs will give KPMG Consulting access to historical data and current operational reports, as needed, to complete the evaluation.

- CLECs will be afforded numerous opportunities to be informed about the status of testing and to provide input to KPMG Consulting throughout the testing process. In certain situations, CLECs may also be able to monitor test personnel interaction with Ameritech during CLEC simulation activities.

- Ameritech will allow KPMG Consulting to inspect algorithms that may have a bearing on parity access, such as the algorithm used to manage trouble reports.

- Regulatory, legal, and confidentiality issues or concerns can be resolved without significant impact to either the intent of the tests, the ability to execute the tests, or the schedules for their execution.

- KPMG Consulting will hold an informational workshop to discuss the statistical methodologies, approaches, and issues (e.g., alternative hypothesis, sample sizes, alpha and beta levels, permutation testings, etc.) relevant to the test. This workshop will include participation from CLECs, Ameritech, IURC staff, and other interested parties.

- To the extent the certain non-tariffed products and services are included in the test, reasonable steps will be taken to make available documents which describe the basis on which these products and services are offered by Ameritech to KPMG Consulting.

H. Limitations

The purpose of this section is to describe some limitations of the testing effort. These limitations will be described in terms of what is to be tested and what conclusions can be drawn from the results.

- In some cases, certain order types, troubles, and processes may not be practical to test. Examples include orders with very long interval periods (such as the establishment of collocation arrangements) or high volumes of test provisioning transactions. There are scenarios where in-progress live transactions cannot be obtained or are not practical to execute in a test environment. Also, it is not practical or desirable to execute certain live tests that would disrupt service to Ameritech or CLEC customers, such as a maintenance and repair test that requires an equipment failure. Accordingly, historical information may be used where the process in question has been stable for a sufficient length of time and where data supplied by CLECs and/or Ameritech can be validated by the Test Manager. Likewise, tests may utilize interviews, inspections, live order review, review of performance or operational reports, or other methods that capture the performance of Ameritech with respect to the order types and processes in question.

- Some of the transaction types submitted through the interfaces being tested can only be properly executed with direct involvement from the CLECs. One category of such tests are those that include complex transactions involving physical CLEC facilities. For example, UNE orders involving LNP require a physical switch and a real CLEC in order to be fully completed. Another category would be those tests requiring realistic customer data, such as address validation and directory listing inquiries.

- Operational, time and resource constraints make it impossible to construct a completely, exhaustive test suite. Significant effort has been expended to clearly portray the scope of the proposed test suite, and it is believed that this suite does provide both extensive and sufficient coverage. Provision has been made in the plan to amend or extend the test coverage if, in the judgment of the IURC, an amendment or extension is deemed justified.

I. CLEC Involvement in Testing

CLECs operating in Indiana will be asked to volunteer to participate in certain portions of this test. For example, CLEC participation will be solicited to provide test cases for the test. The inclusion of selected CLEC live transactions provides an alternative test method for transactions that may not be practical to provide through the interfaces being tested, and further facilitates a more realistic depiction of real world production. Use of CLEC live transactions also provides a means to help control for test bias, and allows for an element of blind testing and tracking performance in a "real-world" environment.

The successful execution of those portions of the test requiring CLEC participation is dependent on the extent of that participation. The Test Manager will meet those CLECs who volunteer to participate to mutually agree on the nature and extent of the participation. It is anticipated that agreement on the following issues will be reached: (a) what commitments are needed in terms of people, time, physical resources, access to facilities and work centers, etc. (b) when the commitments need to be delivered and (c) what lead times will be provided in order to arrange to meet the commitments.

Use of CLEC transactions for test purposes will require extensive participation by the Test Manager either to observe the execution of the transactions in order to measure, audit, inspect and monitor progress and report results or otherwise verify and validate the observed results.

J. Communication Forums

The Test Manager will work with the IURC to provide numerous informational forums during the test. For example, the Test Manager will schedule periodic meetings with the IURC, the CLECs, and Ameritech as necessary to address testing status, issues, and proposed resolutions and keep CLECs apprised of all relevant aspects of the project. The Test Manager will also host weekly CLEC status meetings (which will not involve Ameritech staff).

K. Document Structure

This section describes the structure of the document. It includes a table that lists each major section number along with a brief description.

Table II-2: Document Overview

Sect. No.	Section	Content
I	Document Control	Identifies document distribution and necessary approvals.
II	Introduction	Documents project background, scope, and objectives, assumptions, and limitations. Includes who should read the document, and how it is structured.
III	Test Plan Framework	Describes the methodologies for testing Ameritech's systems, interfaces and processes. Includes how testing is segmented and organized, testing components, entrance and exit criteria, data acquistion, and traceability.
IV	Performance Metrics Audit Test Section	Describes the methods and procedures for evaluating Ameritech's data collection, transfer, and processing into its performance metrics.
V	Policies and Procedures Review Test Section	Describes the methods and procedures for evaluating the Ameritech Wholesale's business rules.

Sect. No.	Section	Content
VI	Transaction Verification and Validation Test Section	Describes the methods and procedures for verifying and validating Ameritech's core systems through a series of transaction tests.
Appendix A	Test Scenarios	Describes the scenarios to be used in this test.
Appendix B	Normal and Peak Volumes Test Section	Describes the volumes to be used in testing.
Appendix C	Statistical Approach	Describes the statistical methods and tests used to determine whether parity exists.
Appendix D	Performance Metrics and Standards	Lists metrics for process areas gathered from sources such as the Interim Guidelines.
Appendix E	Glossary	Testing terms and definitions used in this document.
Appendix F	TBD	Modifications and enhancements have been negotiated between Ameritech and CLECs to be included in the test.

III. Test Plan Framework

The overall test of Ameritech's OSS is designed to be multi-faceted and provide end-to-end coverage of the systems, interfaces, and processes that fall within the scope of the testing effort. In constructing a master test plan, many factors were considered, including the systems and processes to be tested, the measurement points and respective evaluation criteria, and the necessary conditions required to stage a successful, efficient, and objective test. The Test Manager is expected to execute all tests listed in this plan.

To present a comprehensive, complete, and thorough test of Ameritech's OSS systems, interfaces, and processes, the master test plan framework has five key dimensions:

- Test Scenarios

- Test Families

- Test Domains

- Test Processes

- Evaluation Criteria

The test scenarios and the test domains define **what is to be tested**. *Test scenarios* provide the contextual basis for testing by defining the transactions, products, volumes, data elements, and other variables that must be considered and included during testing. The *test families* organize the systems and processes to be tested. The *test domains* define the systems and processes to be tested.

Test processes and evaluation criteria define **how testing will be conducted**. *Test processes* define the techniques, measures, inputs, activities, and outputs of each component test. *Evaluation criteria* serve as the basis for evaluation by defining the norms against which test results are compared.

These concepts are discussed in more detail in the following sections.

A. Test Scenarios

Based on KPMG Consulting's industry experience, the knowledge gained from the New York Public Service Commission Test, the Pennsylvania Public Utility Commission Test, the Florida Public Utility Commission third party test, a review of the available offerings in Indiana, the scenarios developed for the Michigan MTP, and contributions from Indiana CLECs, KPMG Consulting has developed a representative set of test scenarios.

The test scenarios describe at a high level realistic situations in which CLECs purchase wholesale services and network elements from Ameritech to be resold or repackaged to the CLEC's end-user customer on a retail basis, as well as situations in which CLECs access repair, maintenance, and billing services. The key principles applied in generating the scenarios included: (1) emulating real world coverage, mix, and types of transactions while (2) balancing the requirement for practical and reasonably executable transactions which would not unduly

disrupt normal production or negatively affect customer service. In general, each test scenario describes a real-world situation that will be used to create test cases.

1.0 Scenario Purpose

Scenarios serve several key purposes. Scenarios help define the products, services, and transactions that should be included for transaction testing. In this regard, test scenarios provide the guidance and framework for developing "real world" test cases to simulate live production in a controlled test environment. The test cases provide the actual detailed instructions required to build individual transaction test instances.

These scenarios will be used to test functionality, performance, and other attributes associated with the ability of CLECs to access information from Ameritech business processes and associated systems. Scenarios provide a way to bridge across test domains and families, thereby facilitating both point-specific and end-to-end testing of various systems and processes and providing the breadth and depth of coverage of products and services to be tested.

2.0 Scenario Use

A list of the scenarios is provided in table form in Appendix A. In general, these scenarios specify a high-level description of a transaction situation. For example, one scenario is to change features for an existing CLEC Resale business Plain Old Telephone Service (POTS) customer. These scenarios will be used to generate specific test cases during testing.

The test cases represent variations on the basic scenario. For example, from the scenario mentioned above, there could be several test cases. One such test case might be to delete Call Waiting and add Caller ID to each line of a ten-line business customer with sequential hunting among the lines. Another case might be to add hunting to a five-line business customer account and then cancel the order after two days. Yet another case might be to remove hunting from a seven-line business customer and then supplement the order three days later to remove Call Waiting from the auxiliary lines. A further case might be to introduce a specific intentional error in this order and then submit an order supplement to correct the error.

Each of these test cases drive the definition of detailed test instances for various components of the total test. These test instances correspond to the test case for a specific customer account. The Test Manager is expected to transmit numerous test instances for each test case. To help ensure the blindness and objectivity of the test, only the high-level scenarios, and not the more detailed test cases or instances are listed in this document. CLECs are expected to contribute to the development of the test case requirements during the course of the test.

For functionality testing, volumes of test instances will be assigned to each of the test cases based, in part, on a determination of the sufficiency of sample sizes to determine compliance with appropriate performance metrics. The method for determining the appropriate performance metrics that will be used in this test is described in Appendix D. However, for practical reasons it is expected that transactions of greater complexity will tend to be executed in smaller volumes. Other considerations that will be taken into account by the Test Manager in determining test volumes will be assurance of sufficient samples by customer type (residence vs. business), as well as by service delivery method. In addition, the Test Manager may determine based on experience in other jurisdictions and further analysis of CLEC experience in Indiana to add additional volumes to certain scenarios.

For volume testing, normal expected volumes will then be assigned to a selected set of the test cases based on projections of expected real world production. Individual test instances that match the test cases will be generated based on the volume that has been assigned.

In addition, a stress volume test will be conducted to test the capacity and identify potential choke points of the interfaces. Stress volumes will be assigned to a subset of the test case types based on some multiplier of the normal expected volumes.

B. Test Domains

The areas subject to testing exist in four domains that mirror the major business functions performed by a telecommunications carrier:

- Pre-Order, Order, and Provisioning (POP)

- Maintenance and Repair (M&R)

- Billing (BLG)

- Relationship Management and Infrastructure (RM&I)

These four domains are useful in defining the areas to be tested and the specific tests to be conducted.

1.0 Pre-Order, Order, and Provisioning Domain

This domain is comprised of the systems, processes, and other operational elements associated with Ameritech's support for Pre-Ordering, Ordering, and Provisioning activities for wholesale services and unbundled network elements. The purpose of the specified tests is to evaluate functionality, to evaluate compliance with prescribed measurements, and to provide a basis for comparing this operational area to parallel systems and processes supporting Ameritech's retail operations.

2.0 Maintenance and Repair Domain

This domain is comprised of the systems, processes, and other operational elements associated with Ameritech's support for wholesale maintenance and repair activities. Tests associated with this domain will evaluate functionality and provide a basis for comparing this operational area to parallel systems and processes supporting Ameritech's retail operations and applicable industry standards. Tests will also evaluate Ameritech's compliance with maintenance and repair performance measurements.

3.0 Billing Domain

This domain is comprised of the systems, processes and other operational elements associated with Ameritech's support for wholesale billing. Tests associated with this domain are designed to evaluate Ameritech's compliance with measurement agreements and to ensure adherence to sound management practices.

4.0 Relationship Management & Infrastructure Domain

This domain is comprised of the systems, processes and other operational elements associated with Ameritech's establishment and maintenance of business and technical relationships with the CLECs.

C. Test Families

The areas subject to testing have been organized into three test families that are composed of tests that require similar methods of evaluation. The three test families are:

- Transaction Verification and Validation

- Processes and Procedures Review

- Performance Metrics Review

These three test families are useful in organizing the areas to be tested and the specific tests to be conducted. The Transaction Verification and Validation (TVV) test family is comprised of transaction-based tests, while the Processes and Procedures Review (PPR) test family is comprised of reviews of Ameritech's wholesale business processes and management practices. The third test family, Performance Metrics Review (PMR), is comprised of reviews Ameritech's service quality measurement data collection, calculation, and reporting functions.

Within each of these test families, specific test targets have been identified for testing. The POP, Billing, and M&R domains are addressed in each of the test families. RM&I is addressed completely within the PPR test family. The relationship between the test families and test domains is shown below.

Table III-1: Domain/Test Family Matrix

	POP	Billing	M&R	RM&I
PMR	X	X	X	
PPR	X	X	X	X
TVV	X	X	X	

D. Test Processes

Within each of the three test families, specific test processes to be executed have been defined. In general, two kinds of tests have been developed:

- Transaction-Driven System Analysis

- Operational Analysis

1.0 Transaction-Driven System Analysis

Tests utilizing transaction-driven system analysis rely on initiation of transactions, tracking of transaction progress, and analysis of transaction completion results to evaluate a system under test. Transaction-driven system analysis requires defining several key facets of testing, including the data sources (e.g., CLEC live data, Ameritech historical data), the system

components under test (e.g., application-to-application interfaces, graphical user interfaces), and volumes (e.g., normal, stress).

The transactions, or test instances, to be used in each transaction-driven system analysis test will be derived from higher level sets of one or more transactions called test cases, which in turn have been developed from test scenarios. See the Scenario section above for additional discussion.

2.0 Operational Analysis

Tests utilizing operational analysis focus on the form, structure, and content of the business process under study. This test method will be used to evaluate day-to-day operations and operational management practices, including policy development, procedural development, and procedural change management. Operational analysis validates and verifies the results of a process to determine that the process functions correctly and according to documentation and expectations. Operational analysis also tests compliance by reviewing management practices and operating procedures against legal, statutory, and other requirements.

E. Evaluation Criteria

Measures and their corresponding evaluation criteria provide the basis for conducting tests. Evaluation criteria are the norms, benchmarks, standards, and guidelines used to evaluate measures identified for testing. Evaluation criteria provide a framework for the scope of tests, the types of measures that must be taken during testing, and the approach necessary for analyzing results.

There are four types of evaluation criteria, as shown in the table below.

Table III-2: Evaluation Criteria

Evaluation Criteria Type	Description	Examples
Quantitative	These criteria set a threshold for performance where a numerical range of values is possible, such as response time.	System response time is four seconds or less.
Qualitative	These criteria set a threshold for performance where a range of quality values is possible, such as level of customer satisfaction.	Documentation defining daily usage feeds is adequate.
Parity	These are criteria that require two measurements to be developed and compared, such as whether external response time is at least as good as internal response time.	CLEC transaction time no greater than Ameritech Retail transaction time.
Existence	These are criteria where only two possible test results can exist (e.g., true/false, presence/absence), such as whether a document exists or not.	Documentation defining daily usage feeds exists.

The evaluation criteria to be applied in the overall test effort are based largely on the legal and regulatory requirements for functionality and performance applicable to Ameritech's OSS. Overall, evaluation criteria are derived from three types of sources, as shown below.

Table III-3: Sources of Evaluation Criteria

Evaluation Criteria Source Types	Description
Legal and Regulatory Requirements	Requirements specified by statute and regulation, such as FCC orders, court orders, IURC regulations, federal and state statutes, and other binding requirements such as interconnect aggrements and others resulting from judicial or governmental proceedings. (State and federal proceedings that the Test Manager uses in evaluation of legal and regulatory requirements will be cited in the final report.)
Consensus Requirements	Norms, benchmarks and standards developed by formal consensus proceedings.
Good Management Practices (GMP)	Widely recognized standards and guidelines promulgated by sanctioned industry and governmental organizations and other bodies (e.g., Association for Telecommunications Industry Solutions (ATIS), Ordering and Billing Forum (OBF), Telecommunications Industry Forum (TCIF)); also includes benchmarks, performance goals, and guidelines derived from industry and topic area experts, Ameritech and CLEC performance targets, publications, academic journals and other sources.

F. Test Process Elements

For every test defined within each test family, the test process includes a description of the test, its objectives, the targets and scope of the test, the measures to be used, the test scenarios which apply to the test, the test's inputs, activities, and outputs, as well as entrance and exit criteria. Several key test process elements are described in the following sections. Each test process specifies the evaluation techniques used to capture and analyze information developed during testing and the evaluation measures used to conduct testing.

1.0 Global Entrance Criteria

Entrance criteria are those requirements that must be met before individual tests can commence. Global entrance criteria, which apply to every individual test (except where noted otherwise), include the following:

1. **The Master Test Plan has been approved.**

   The Test Plan must be approved by the IURC staff.

2. **All relevant legal dependencies have been resolved.**

   Any pending legal and regulatory proceedings that impact the ability to perform the test must be concluded in a manner, which allow testing to proceed. Any necessary legal or regulatory approvals must be secured.

3. **The performance measurements to be used in the test are determined.**

   The performance metrics to be used in the test must be determined by the IURC and fully defined. Fully functional Ameritech measurements are required to support collection of test results and to ensure a method exists to monitor on-going compliance. With assistance from the Test Manager, IURC staff will assess the operational readiness of all required Ameritech measurements and verify that all requirements have been met.

4.   All Ameritech interface capabilities subject to testing at the onset of the evaluation must be operationally ready.

Electronic interfaces to OSS access functions of pre-ordering, ordering, provisioning, maintenance and repair, and billing must be operational and in production in order to be tested. (During the test period, additional functionality to be tested may become operational.   For these systems and processes, Ameritech will indicate via the CLEC Change Control process when such functionality is operational and in production.)

5.   For transaction tests to begin, construction of the transaction testing systems (including the gateway systems and Test Manager's OSS) must be complete.

The Test Manager's interfaces to Ameritech's OSS will be built based on specifications and documentation provided by Ameritech to all CLECs. Acceptance testing by the Test Manager will be necessary to verify that the test systems are capable of communicating with Ameritech's systems.   The Test Manager will indicate to IURC staff when construction of these systems is complete.

6.   KPMG Consulting's review of relevant source documentation from the other states in the Ameritech region is complete.

KPMG Consulting will review OSS testing in other states in the Ameritech region to determine whether the results of those tests may be applicable to any specific portion of this Master Test Plan. Results of this analysis will be shared with the participants.   KPMG Consulting may recommend to the IURC to utilize the results of those tests rather than conducting duplicative testing, where KPMG Consulting can attest that the testing done in other states is independent and reliable and can be used as a basis for evaluation acceptable to the IURC or its representatives. To be considered duplicative, a test must meet the specifications listed in the Indiana MTP.

Table III-4: Global Entrance Criteria

Criteria	Responsible Party
The Test Plan has been approved.	IURC staff
All relevant legal dependencies have been resolved.	Ameritech, IURC staff
The performance measurements to be used in the test are determined.	IURC staff
All Ameritech interface capabilities subject to testing at the onset of the evaluation must be operationally ready.	Ameritech
For transaction tests to begin, construction of the transaction testing systems (including the gateway systems and Test Manager's OSS) must be complete.	Test Manager, Ameritech
KPMG Consulting's review of relevant source documentation from the other states in the Ameritech region is complete.	Test Manager

2.0 Global Exit Criteria

Exit criteria are the requirements that must be met before the tests defined in the Test Plan can be concluded. The Exit Criteria must be met prior to KPMG Consulting providing its report to the IURC as described in this MTP.

1.   **All test activities required by the MTP must be completed.**

For each test, all fact finding and analysis activities must be completed. All results and test methodologies have been documented. Any exceptions must be resolved or retesting completed, unless specifically exempted by the IURC.

2.   **All change control, verification, and confirmation steps have been completed.**

The results of test activities must be documented and reviewed for accuracy. Any results that require clarification or follow-up are confirmed.

3.   **All negotiated modifications and enhancements are tested.**

The test will not be considered complete until Ameritech has implemented a series of modifications and enhancements to its OSS (as described in the table below and in Appendix F), and those modifications and enhancements have been tested. These modifications and enhancements have been negotiated[1] between Ameritech and CLECs in collaborative work sessions conducted under the auspices of several state regulatory agencies and at the Federal Communications Commission (Memorandum Opinion and Order, Applications of Ameritech Corp., Transferor, and SBC Communications Inc., Transferee, For Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95 and 101 of the Commission's Rules, CC Dkt. No. 98-141, FCC 99-279, 1999 WL 809551 (rel. Oct. 8, 1999), app. pend. ,sub. nom. Telecommunications Resellers Ass'n v. FCC, Case No. 99-1441 (D.C. Cir.) (*The Merger Order*).

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[1] **NEEDS REVISION**   At this point, Ameritech and the CLECs have agreed that these modifications and enhancements should be implemented, and they have further agreed that the third-party test cannot be deemed complete until these modifications and enhancements have been tested. However, the collaborative parties have not yet come to final agreement concerning the specifics of each and every modification and enhancement. Negotiations regarding these specifics are ongoing. If a negotiated solution cannot be made, the parties may seek Commission resolution of these issues. To the extent the OSS functionalities referred to are defined and resolved on or before September 15, 2000, in the state collaborative proceedings and the FCC's SBC/Ameritech Uniform and Enhanced Plan of Record, the functionalities will be documented, implemented, and tested as defined in those proceedings. If these functionalities are not resolved in those proceedings on or before September 15, 2000, the functionalities will be documented, implemented, and tested as otherwise agreed to by the collaborative parties or as determined by the PSC.

Table III-5: Modifications and Enhancements to be Tested

Type of Modification and Enhancement	Brief Description
Functionalities, processes and procedures to be deployed (Note that letters in parentheses refer to the issue as described in Appendix G)	– Facilities Availability Process (A) – Improved Escalation Process Concerning Facility Assignment (A) – Procedures for Requesting and Receiving by Central Office DLC Loop Percentages (A) – Facility Problem Notification Within 24 Hours of FOC (A) – Loop Assignment for DSL (C) – New Firm Order Confirmation (FOC) and Facility Modification Process – Documentation Available (F) – New Facility Modification Process – Identify Facility Problems and Notify CLEC of modification or build options (F) – New Firm Order Confirmation Process – Incorporate version numbers and reason codes on revised FOCs (F) – Hot Cut Procedures (G) – Hot Cut Procedures – Integrated Services Digital Network (ISDN)-xDSL (G) – Street Address Guide (SAG) to CSR Conversion (abbreviated validation) (H) – Directory Assistance/Directory Publishing (L) – Provide current SBC documentation on its " Retain Current Listing" process (L) – Provide current AAS documentation on its Order and Query Process via website (L) – Implement a process to allow CLECs the option to retain current listings, except on partials (L) – Provide interface (or work-around) for integrated directory listings ordering ability (L) – E911 Database Management (confirm parity between Ameritech and CLECs regarding use of SAG) (M) – Customer Premise Access -- Provide Copies of Policy (N) – Replacement of Internal Network Interface Devices (NIDs) (O) – TC/Net Change Process (P) – LEC Protection (Q) – LEC Protection -- LOA Policy (Q) – Flow Through (S) – Branded Operator Services (W) – Partial Migrations (X) – Account Management Process – Edited Ameritech Handbook (Y) – Account Management Process – Coordination Between Account Team and Directory Listing and Directory Assistance (Y) – Collocation Ordering, Rates, Auditing and Record Keeping Processes (Z) – LNP 10-Digit Trigger Ordering (AA)
Products and services made available for ordering and provisioning in commercial quantities	– UNE-P (B) – Line Sharing (C) – Line Splitting (C) – Digital Subscriber Line (DSL) (C) – Sub-Loops (D) – Dark Fiber (E) – Enhanced Extended Links (EELS) (V)
Modifications to Ameritech's OSS and interfaces to provide functionality in conformance with industry standards for Ameritech's application-to-	– Graphical User Interface (GUI) for Ordering (A, B, C, D) – Parsed (Fielded) Customer Service Record (CSR) (I) – Service Order Completion Notices (R) – Conform To ATIS Standards For Pre-Ordering And Ordering At The Local Service Ordering Guideline, Version 4.0 Level (J & K)

Type of Modification and Enhancement	Brief Description
application interface and its graphical user interface providing such functionality	– Accept Full Refresh Supplemental Orders (or mutually agreed upon work around) (T) – Synchronized Pre-Order And Order Data Elements (U) – Enable CLEC Use Of Frame Due Time Specification On UNE Loop Orders (G) – Retain Current Listing On All Order Types (L)

4.   All negotiated performance measures are tested.

The set of performance measures to be used in the test has been negotiated between Ameritech and CLECs in collaborative work sessions conducted under the auspices of the IURC and other state regulatory agencies. The parties have come to agreement on a set of baseline measures to be used to begin third-party testing.   The parties have also agreed to meet in a series of collaboratives to discuss modifications, deletions, and additions to that baseline set of measures. The test will not conclude until (1) Ameritech has implemented the modifications, deletions, and additions to the baseline measures resulting from the collaborative (either by agreement of the collaborative parties or as otherwise ordered by the IURC) and (2) those modifications, deletions, and additions are encompassed as part of the third-party test and audited.

In addition to these global exit criteria, test-specific exit criteria, where applicable, are defined within each test.

Table III-6: Global Exit Criteria

Criteria	Responsible Party
All required test activities must be completed.	Test Manager
All change control, verification, release management and confirmation steps have been completed.	Test Manager
All negotiated modifications and enhancements are tested.	Test Manager, Ameritech, IURC staff
All negotiated performance measures are tested.	Test Manager, Ameritech, IURC staff

3.0 Evaluation Techniques

Each test relies on one or more techniques to collect and record measurements and analyze the results. The five types of techniques defined for this test are described in the chart below.

Table III-7: Evaluation Techniques

Technique	Description
Transaction Generation	Transaction generation is the use of live, historical, and/or generated data which is executed through the system under review. The results of this test are evaluated for quality.
Report Review	Review and analysis of historical data, reports, metrics, and other information in order to assess the effectiveness of a particular system or business function. This includes performance measurement reports and other management reports.

Technique	Description
Inspection	Physical review of process activities and products, including site visits, walk-throughs, read-throughs, and work center observations.
Logging	Monitoring activities and collecting information by logging process events and products as they happen. Logging can be mechanized or manual.
Document Review	Compilation and review of books, manuals, and other publications related to the process and system under study.

IV. Performance Metrics Audit Test Section

A. Purpose

The purpose of this section is to define the specific tests to be undertaken in evaluating the systems, processes, and other operational elements associated with Ameritech's support for Performance Metrics (Service Quality Measurements). This will constitute the first annual audit but does not prescribe the scope of any future audits. The performance metrics audit will be initiated as soon as possible. The performance measurements audit will determine if Ameritech has properly implemented the Commission required parity and performance standards measurements, and the reliability of the data. This section defines the specific tests to be undertaken in the audit of performance metrics.

The performance metrics audit test will be conducted using the United States General Accounting Office Government Auditing Standards related to issues of performance audits as applicable to public utilities, as determined by KPMG Consulting in the exercise of its reasonable professional judgment in consultation with IURC staff.

B. Organization

The Performance Metrics Review is organized into three test target areas, which represent the key focus areas for testing in this domain. The Performance Metrics scope section contains a series of tables that identify the specific tests to be associated with each target test area. The tables are organized based upon subject test matter.

The subsequent section, Performance Metrics Review "Test Process," provides additional information and tables that further define the testing approach, inputs, outputs, as well as entrance and exit criteria.

C. Scope

The Performance Metrics Review test family is comprised of three test target areas, representing important and generally distinct areas of effort undertaken by Ameritech. The three test target areas are:

- Standards & Definitions
- Data Processing
- Data Retention

Each target test area is further broken down into a number of increasingly discrete Process and Sub Process Areas that serve to identify the test details and procedures.

D. Test Process

Five tests have been designed to address the three test target areas. The organization of the subject test processes is as follows:

       PMR1:   Data Collection and Storage Verification and Validation Review

PMR2: Metrics Definitions and Standards Development and Documentation Verification and Validation Review

PMR3: Metrics Change Management Verification and Validation Review

PMR4: Metrics Data Integrity Verification and Validation Review

PMR5: Metrics Calculations and Reporting Verification and Validation Review

The three test target areas and five metrics tests will review all of the service quality measures that Ameritech is currently reporting, in part based on requirements of state and federal regulators. The metrics to be used in the test will be determined by the IURC before the test commences. This determination will be based on input from a Work Group consisting of representatives from CLECs active in Indiana, Ameritech, and the IURC Staff. When these metrics have been determined, they will be listed in Appendix D.

The metrics tests will involve an examination of both live industry data and, where applicable, data from the test transactions performed by the Test Manager. The tests will involve an investigation of the processes both for developing the metrics and for deriving the standards derived from retail analogs. That is, both CLEC and Retail data will be included in the test.

1.0 Test PMR1: Data Collection and Storage Verification and Validation Review

1.1 Description

This test evaluates key policies and practices for collecting and storing raw and target data necessary for the creation of performance metrics. The procedures both for data used in the calculation of the metrics and data required for the calculation of retail analogs will be included. This test will rely on checklists, document reviews, and inspections.

1.2 Objectives

The objectives of this test are to determine the adequacy and completeness of key policies and procedures for collecting and storing performance data. This test will also evaluate the extent to which Ameritech's operations are consistent with the policies and procedures – i.e., are the policies and procedures being followed consistently.

1.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager

1.4 Test Scope

Table IV-1 Test Target: Data Collection and Storage Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Collection of Data	Collection policies & procedures for CLEC and retail data	Adequacy and completeness of collection policies and procedures	Inspection Document review Report review	Qualitative
	Identification of collection points	Applicability of and measurability from control points	Inspection	Qualitative
	Existence of collection tools	Adequacy and scalability of data collection tools	Inspection	Qualitative
	Internal Controls	Adequacy and completeness of the internal control process	Inspection Document review Report Review	Qualitative
Storage of Data	Storage policies & procedures for CLEC and retail data	Adequacy and completeness of storage policies and procedures	Inspection Document review Report review	Qualitative
	Identification of storage sites	Applicability of and measurability from control points	Inspection	Qualitative

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
	Existence of storage tools	Adequacy and scalability of data storage tools	Inspection	Qualitative
	Internal Controls	Adequacy and completeness of the internal control process	Inspection Document review Report Review	Qualitative

1.5 Scenarios

This test does not rely on scenarios.

1.6 Test Approach

Inputs	Activities	Outputs
– Ameritech Metrics Policies and Processes Documentation – Ameritech Metrics Definition Documentation – Other procedural and technical documentation – Evaluation checklists – Interview guides	– Gather information – Review collection and storage policies and procedures for both CLEC data and data used in calculations of retail analogs – Perform walkthroughs of Ameritech facilities that are relevant to the production of performance measurements – Perform interviews and documentation reviews – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

1.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

2.0 Test PMR2: Metrics Definitions and Standards Development and Documentation Verification and Validation Review

2.1 Description

This test evaluates the overall policies and practices for developing and documenting metrics definitions and standards. This would include policies and practices associated with both CLEC and, for standards that are retail analogs, retail measurements. This test will rely on checklists, document reviews and inspections.

2.2 Objectives

The objectives of this test are to determine the adequacy and completeness of key procedures for developing, documenting, and publicizing standards and definitions for performance metrics.

2.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager

2.4 Test Scope

Table IV-2 Test Target: Metrics Definition and Standards Development and, Documentation Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Metrics Definitions	Documentation of Metrics Definitions	Adequacy and completeness of Metrics Definitions	Inspection Document review Report review	Qualitative
	Distribution of Metrics Definitions	Adequacy and completeness of the distribution of the Metrics Definitions	Inspection Document review Report review	Qualitative
Standards Definitions	Documentation of Standards Definitions	Adequacy completeness of Standards Definitions	Inspection Document review Report review	Qualitative
	Distribution of Standards Definitions	Adequacy and completeness of the distribution of the Standards Definitions	Inspection Document review Report review	Qualitative

2.5 Scenarios

This test does not rely on scenarios.

2.6 Test Approach

Inputs	Activities	Outputs
– Ameritech Metrics Development Documentation – Ameritech Metrics Definitions Documentation – Other procedural and technical documentation that may be appropriate – Evaluation checklists – Interview guides	– Gather information – Perform interviews and documentation reviews – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

2.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

3.0 Test PMR3: Metrics Change Management Verification and Validation Review

3.1 Description

This test evaluates the overall policies and practices for managing the change of the standards and definitions in the Ameritech metrics and the calculation of the metrics, and the communication of these changes to the IURC and the CLECs. This would include policies and practices associated with both CLEC and, where the standards are retail analogs, retail measurements. This test will rely on checklists, document reviews and inspections.

3.2 Objectives

The objectives of this test are to determine the adequacy and completeness of key procedures for developing, conducting, monitoring, and publicizing change management of the performance metrics. This test will also evaluate the extent to which Ameritech's practices and procedures used to effect change in the performance metrics systems conform to the documented Ameritech change management process for performance metrics.

3.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager
Ameritech's written Change Management Process for performance metrics	Ameritech

3.4 Test Scope

Table IV-3 Test Target: Metrics Change Management Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Change Management	Developing Change Proposals	Completeness and consistency of change development process	Inspection Document review Report review	Qualitative
	Evaluating Change Proposals	Completeness and consistency of change evaluation process	Inspection Document review Report review	Qualitative
	Implementing Change	Completeness and consistency of change implementation process	Inspection Document review Report review	Qualitative
	Intervals	Reasonableness of change interval	Inspection Document review Report review	Qualitative
	Documentation	Timeliness of documentation updates	Inspection Document review Report review	Qualitative
	Tracking Change Proposals	Adequacy and completeness of change management tracking process	Inspection Document review Report review	Qualitative

3.5 Scenarios

This test does not rely on scenarios.

3.6 Test Approach

Inputs	Activities	Outputs
– Ameritech Metrics Policies and Processes Documentation – Other procedural and technical documentation – Evaluation checklists – Interview guides	– Gather information – Perform interviews and documentation reviews – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

3.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

4.0 Test PMR4: Metrics Data Integrity Verification and Validation Review

4.1 Description

This test evaluates the overall policies and practices for processing the data used by Ameritech in the production of the reported performance metrics and standards. This test will rely on document reviews, inspections, and sampling of partially converted data. Both CLEC and retail data will be included in the test. In addition, both retrospective data and data derived from the transactions submitted by the Test Manager will be included.

4.2 Objectives

The objective of this test is to determine the integrity of key procedures for processing the data necessary for the production of performance metrics.

4.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager
Preliminary analysis of PMR 5	Test Manager

4.4 Test Scope

Table IV-4 Test Target: Metrics Data Integrity Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Data Integrity	Transfer of data from point(s) of collection	Adequacy and completeness of the data transfer process	Inspection Document review Report review	Qualitative
	Conversion of data from raw to processed form	Adequacy and completeness of the conversion policies and procedures	Inspection Document review Report review	Qualitative
	Internal Controls	Adequacy completeness of the internal control process	Inspection Document review Report review	Qualitative

4.5 Scenarios

This test does not rely on scenarios.

4.6 Test Approach

Inputs	Activities	Outputs
– Ameritech Metrics Definitions Documentation – Ameritech Metrics Definition Documentation – Other procedural and technical documentation	– Gather information – Perform interviews and documentation reviews – Complete evaluation checklists and interview summaries	– Completed evaluation checklists and interview summaries – Summary report

– Evaluation checklists – Interview guides	– Gather sample of data – Analyze data – Develop and document findings	

4.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

5.0 Test PMR5: Metrics Calculations and Reporting Verification and Validation Review

5.1 Description

This test evaluates the processes used to calculate performance metrics and retail analogs. The test will rely on re-calculating metrics and retail analogs and reconciling any discrepancies to verify and validate the reporting of the metrics. The test will use both retrospective data and data collected by Ameritech from the execution of transactions. This test will also analyze the documentation published by Ameritech about metrics and the consistency between the documentation and the procedures used for calculating metrics. The test will rely on checklists, document reviews, inspections, and standard statistical techniques.

5.2 Objectives

The objectives of this test are to determine the accuracy of recent metrics calculations and to verify that the metrics as produced by Ameritech are consistent with its documentation and stated objectives.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3

5.4 Test Scope

Table IV-5 Test Target: Metrics Calculations and Reporting Review Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Metrics Calculations and Reporting	Accuracy of metrics calculations	Ability to recreate calcuations of metrics values and retail analogs	Calculation	Quantitative
	Documentation	Consistency between definitions and metrics calculations programs	Document review	Qualitative

5.5 Scenarios

This test does not rely on scenarios.

5.6 Test Approach

Inputs	Activities	Outputs
– Ameritech definitions and standards as verified by PMR2 – Ameritech's target database as verified and validated by PMR1 – Ameritech Metrics Definition Documentation – Other procedural and technical documentation – Evaluation checklists – Interview guides	– Gather information – Perform interviews and documentation reviews – Complete evaluation checklists and interview summaries – Gather data – Recreate performance metrics from target data – Develop and document findings	– Completed evaluation checklists and interview summaries – Completed performance metrics calculations – Summary report

5.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

V. Processes and Procedures Review Test Section

A. Purpose

The purpose of this section is to define the specific tests to be undertaken in evaluating the systems, processes and other operational elements associated with Ameritech's establishment and maintenance of business relationships with the CLECs. Areas to be evaluated include the provisioning of on-going operational support to CLECs in a manner both adequate to CLEC business needs and comparable to that provided to Ameritech retail operations.

B. Organization

The Processes and Procedures Review "Scope" section contains a series of tables that identify the types of tests to be associated with each Target Test Area and are organized based upon test subject matter.

The subsequent section, Processes and Procedures Review "Test Process," provides additional information and tables that further define the testing approach, inputs, outputs, as well as entrance and exit criteria. The tests are grouped to enable an efficient overall test procedure.

C. Scope

The Process and Procedures Review Test family is comprised of Target Test Areas representing important and generally distinct areas of effort undertaken by Ameritech to establish and subsequently support CLECs. These Target Test Areas include:

- Change Management, including ongoing development of CLEC interfaces with Ameritech's OSS, and Ameritech interface testing facilities made available to CLECs

- Release Management

- CLEC Training

- Account Establishment & Management

- Forecasting

- Interface Development

- Network Design, Collocation and Interconnection Planning

- Domain Specific Process Reviews

Each Target Test Area is further broken down into a number of increasingly discrete Process and Sub Process Areas that serve to identify the particular area of interest under test.

D. Test Process

Sixteen test processes have been designed to address the seven Test Target areas.   The organization of the subject test processes is as follows:

PPR1	Change Management Practices Verification and Validation Review	
PPR2	Account Establishment & Management Verification and Validation Review	
PPR3	OSS Interface Help Desk Functional Review	
PPR4	CLEC Training Verification and Validation Review	
PPR5	OSS Interface Development Verification and Validation Review	
PPR6	Collocation and Network Design Verification and Validation Review	
PPR7	POP Manual Order Processing Evaluation	
PPR8	POP Work Center/Help Desk Support	
PPR9	Provisioning Process Evaluation	
PPR10	Billing Work Center/Help Desk Support Evaluation	
PPR11	Daily Usage Feed Returns – Process Evaluation	
PPR12	Daily Usage Production and Distribution – Process Evaluation	
PPR13	Billing Production and Distribution – Process Evaluation	
PPR14	End-to-End M&R Process Evaluation	
PPR15	M&R Work Center Support Evaluation	

PPR16   Network Surveillance Support Evaluation

1.0 Test PPR1: Change Management Practices Verification and Validation Review

1.1 Description

This test evaluates Ameritech's policies and procedures for managing changes to the OSS interfaces and business processes utilized by CLECs. The change management practices for Ameritech-initiated and CLEC-initiated changes shall be considered. Additionally, data will be reviewed to evaluate change management of a major software release, LSOG 4, from initiation through implementation.

1.2 Objectives

The objectives of this test are to determine the adequacy and completeness of procedures for developing, publicizing, conducting, and monitoring change management.

1.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager

1.4 Test Scope

Table V-1 Test Target: Change Management Practices Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Change Management	Developing Change Proposals	Completeness and consistency of change development process	Inspection Document review Report review	Qualitative
	Evaluating Change Proposals	Completeness and consistency of change evaluation process	Inspection Document review Report review	Qualitative
	Implementing Change	Completeness and consistency of change implementation process	Inspection Document review Report review	Qualitative
	Intervals	Reasonableness of change interval	Inspection Document review Report review	Qualitative
	Documentation	Timeliness of documentation and notification updates	Inspection Document review Report review	Qualitative
	Tracking Change Proposals	Adequacy and completeness of change management tracking process	Inspection Document review Report review	Qualitative

1.5 Scenarios

This test does not rely on scenarios.

1.6 Test Approach

Inputs	Activities	Outputs
– Ameritech change management process documentation – Other procedural and technical documentation – Ameritech instructions to CLECs for interacting with change management functions and interpreting change management activities – Evaluation checklists – Interview guides – CLEC data and interviews – Change management process artifacts, such as change management meeting notes, change management notifications and updated specifications – CLEC Forum and CLEC User Forum artifacts such as notices of meeting, documents provided by Ameritech to CLECs that outline changes that are to be implemented, specifications and issues for resolution	– Gather documentation and other relevant data – Perform interviews and documentation reviews – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

1.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

2.0 Test PPR2: Account Establishment & Management Verification and Validation Review

2.1 Description

This test evaluates Ameritech's policies and practices for establishing and managing CLEC account relationships. Account establishment and management activities such as requests for account manager assistance are included in the scope of this test.

2.2 Objectives

The objectives of this test are to determine the adequacy, completeness, and compliance with procedures for developing, publicizing, conducting, and monitoring account management.

2.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager
Retail analogs	Test Manager/IURC
Interval standards for account management responsiveness to CLEC requests	IURC

2.4 Test Scope

Table V-2 Test Target: Account Establishment & Management Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Establishing an Account Relationship	Staffing	Appropriateness of roles and responsibilities	Inspection Document review	Qualitative Parity
		Capacity, coverage, and account allocation	Inspection Document review	Qualitative Parity
Maintaining an Account Relationship	Customer contact	Adequacy and completeness of procedures for responding to customer requests	Interviews Logging Report Review	Qualitative Parity
	Intervals	Responsiveness to customer contacts relative to established interval standards	Inspection Document review	Quantitative
	Escalation	Adequacy, completeness and effectiveness of escalation procedures	Inspection Document review Interviews	Qualitative Parity
	Routine and urgent customer communications	Adequacy and completeness of communication and notification procedures	Inspection Document review Interviews	Qualitative Parity
	Customer documentation	Adequacy and completeness of procedures for developing, distributing, and maintaining customer documentation	Inspection Document review Interviews	Qualitative Parity

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Account Management Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

2.5 Scenarios

This test does not rely on scenarios.

2.6 Test Approach

Inputs	Activities	Outputs
– Ameritech account management procedural documentation – Ameritech instructions to CLECs for interacting with account managers, including escalation policies and procedures – Other procedural, technical and customer documentation – Evaluation checklists – Interview guides – CLEC data (such as documented, independently verifiable account management contacts) – Retail analogs (as applicable)	– Gather documentation and other relevant data – Perform Ameritech and CLEC interviews and documentation reviews – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

2.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

3.0 Test PPR3: OSS Interface Help Desk Functional Review

3.1 Description

This test is an evaluation of the Ameritech's help desk functions, which provide technical and system administration support for its OSS interfaces.

3.2 Objectives

The objectives of this test are to:

- Determine adequacy, completeness and consistency of help desk processes

- Ensure help desk functions have effective management oversight

- Determine whether help desk escalation procedures are correctly maintained, documented and published

- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining help desk performance

- Ensure existence of reasonable security measures to ensure integrity of help desk data and the ability to restrict access to parties with specific access permissions

3.3 Entrance Criteria

Criteria	Responsible Party
Limited to Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager

3.4 Test Scope

Table V-3 Test Target: OSS Interface Help Desk Functional Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Process Help Desk Call	Resolution of user question, problem or issue	Completeness and consistency of process	Inspection Document review	Qualitative
Close Help Desk Call	Closure posting	Completeness and consistency of process	Inspection Document review	Qualitative
Status Tracking and Reporting	Status tracking and reporting	Completeness and consistency of reporting process	Inspection Document review	Qualitative
Problem Escalation	User and Ameritech initiated escalation	Completeness and consistency of process	Inspection Document review	Qualitative
Capacity Management	Capacity planning process	Completeness and consistency of process	Inspection Document review	Qualitative
Security and Integrity	Data access controls	Security of process	Inspection Document review	Qualitative
Process Management	General management practices	Completeness and consistency of operating management practices	Inspection Document review	Qualitative
	Performance measurement process	Controllability, efficiency and reliability of process	Inspection Document review	Qualitative

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative

3.5 Scenarios

This test does not rely on scenarios.

3.6 Test Approach

Inputs	Activities	Outputs
– Procedural documentation (such as internal help desk procedure manuals) – Ameritech instructions to CLECs for interacting with help desk functions – Evaluation checklists – Interview guides	– Gather information – Perform walk-through and documentation reviews – Complete evaluation checklists – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

3.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

4.0 Test PPR4: CLEC Training Verification and Validation Review

4.1 Description

This test evaluates key aspects of Ameritech's training program for CLECs.

4.2 Objectives

The objectives of this test are to:

- Determine the existence and functionality of procedures for developing, publicizing, conducting, and monitoring CLEC training
- Ensure the CLEC training effort has effective management oversight

4.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist and interview guides	Test Manager
Retail analogs	Test Manager/IURC

4.4 Test Scope

Table V-4 Test Target: CLEC Training Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Training Program Development	Develop curriculum	Completeness of training curriculum and forums	Document review Inspection	Qualitative Parity
		Adequacy of procedures to respond to information about training quality and utilization	Document review Inspection	Qualitative Parity
		Adequacy of procedures to accept CLEC input regarding training curriculum	Document review Inspection	Qualitative Parity
	Publicize training opportunities	Availability of information about training opportunities	Document review Inspection	Qualitative Parity
Training Program Quality Assurance	Attendance/ utilization tracking	Adequacy of process to track utilization and attendance of various training tools and forums	Document review Inspection	Qualitative Parity
	Session effectiveness tracking	Adequacy of process to survey training recipients on effectiveness of training	Document review Inspection	Qualitative Parity
	Instructor oversight	Adequacy of procedures to monitor instructor performance	Document review Inspection	Qualitative Parity
Process Management	Performance measurement process	Controllability, efficiency and reliability of process	Inspection Document review	Qualitative Parity
	Process improvement	Completeness of process improvement practices	Inspection Document review	Qualitative Parity

4.5 Scenarios

This test does not rely on scenarios.

4.6 Test Approach

Inputs	Activities	Outputs
– Procedural documentation (such as training manuals) – Ameritech instructions to	– Gather information – Perform interviews and documentation reviews	– Completed evaluation checklists and interview summaries

CLECs for accessing Ameriteh training – Evaluation checklists – Interview guides – Retail analogs (as applicable)	– Complete evaluation checklists and interview summaries – Develop and document findings	– Summary report

4.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

5.0 Test PPR5: OSS Interface Development Verification and Validation Review

5.1 Description

This test evaluates Ameritech's methods and procedures for developing, providing, and maintaining OSS interfaces for pre-ordering, ordering, maintenance & repair, and billing.

5.2 Objectives

The objectives of this test are to determine the adequacy, consistency and completeness of Ameritech's methods and procedures for developing, providing and maintaining OSS interfaces. The test shall also evaluate the capacity management practices used by Ameritech for its OSS interfaces and gateway systems.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager

5.4 Test Scope

Table V-5 Test Target: OSS Interface Development Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Developing Interfaces	Interface development methodology	Adequacy and completeness of interface development methodology	Inspection Document review Report review	Qualitative
	Provision of interface specifications and related documentation	Adequacy and completeness of interface documentation distribution procedures	Inspection Document review Report review	Qualitative

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Enabling and Testing Interfaces	Interface enabling and testing methodology	Adequacy and completeness of carrier-to-carrier interface enabling and testing procedures	Inspection Document review Report review	Qualitative
	Availability of test environments and technical support to CLECs	Availability and adequacy of functioning test environments, testing protocols, production cutover protocols and technical support for all supported interfaces	Inspection Document review Report review	Qualitative
	Interface enabling and testing support	Adequacy and completeness of interface enabling and testing procedural documentation	Inspection Document review Report review	Qualitative
Maintaining Interfaces	Release management	Adequacy and completeness of interface enhancement and software release management protocols	Inspection Document review Report review	Qualitative
OSS Interface Capacity Management	Capacity management	Adequacy and completeness of capacity management practices for OSS interfaces and gateway systems	Inspection Document review Report review	Qualitative

5.5 Scenarios

This test does not rely on scenarios.

5.6 Test Approach

Inputs	Activities	Outputs
– Procedural and technical documentation – Ameritech instructions to CLECs for enabling, testing, and maintaining compatibility with interfaces – Evaluation checklists – Interview guides – CLEC data and interviews	– Gather information – Perform Ameritech and CLEC interviews and documentation reviews – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

5.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

6.0 Test PPR6: Collocation and Network Design Verification and Validation Review

6.1 Description

This test evaluates Ameritech's policies and practices for collocation and network design related to establishing and maintaining CLEC ability to access unbundled network elements. This test also evaluates Ameritech's trunk forecasting process. (This test is not intended to examine interconnection for other purposes, such as an interexchange carrier's network-to-network level interconnection.)

6.2 Objectives

The objectives of this test are to:

- Determine whether CLECs have sufficient information and Ameritech technical support to adequately prepare for and implement network designs and collocations

- Determine whether collocation and network design processes are well structured and managed to produce intended results

- Determine the existence and functionality of procedures for developing, publicizing, conducting, and monitoring trunk forecasting efforts with CLECs

- Verify integration of trunk forecasting procedures with Ameritech facilities planning procedures

- Ensure the trunk forecasting effort has effective management oversight

6.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria requirements	See Table III-3
Process evaluation checklist	Test Manager
Interview guides	Test Manager

6.4 Test Scope

Table V-6 Test Target: Collocation and Network Design Verification and Validation Review

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
Network design and collocation	Planning	Adequacy and completeness network design and collocation planning processes	Document review Inspection	Qualitative

Process Area	Sub Process/ Attribute	Evaluation Measure	Evaluation Technique	Criteria Type
	Project management	Adequacy and completeness of collocation project management procedures	Document review Report review Inspection	Qualitative
	Resources	Availability and adequacy of resources and qualified technical support to facilitate collocation activities	Document review Report review Inspection	Qualitative
	Testing and implementation	Adequacy and completeness of network design and collocation testing processes	Document review Report review Inspection	Qualitative
Trunk Forecasting	Forecast Development	Adequacy and completeness of trunk forecasting procedures	Document review Inspection	Qualitative
	Forecast Security	Adequacy and completeness of procedures for ensuring confidentiality of CLEC-provided forecast information	Document review Inspection	Qualitative
	Forecast usage	Availability and integration of published trunk forecasts in Ameritech facilities planning process	Document review Inspection	Qualitative
Collocation Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

6.5 Scenarios

This test does not rely on scenarios.

6.6 Test Approach

Inputs	Activities	Outputs
– Procedural and technical documentation – Ameritech instructions to CLECs for planning and implementing network designs and collocations – Evaluation checklists	– Gather information – Perform Ameritech and CLEC interviews and documentation reviews – Complete evaluation checklists and interview summaries	– Completed evaluation checklists and interview summaries – Summary report

– Interview guides – CLEC data	– Develop and document findings	

6.7 Exit Criteria

Criteria	Responsible Party
Limited to Global Exit Criteria requirements	See Table III-4

7.0 Test PPR7: POP Manual Order Processing Evaluation

7.1 Description

The POP Manual Order Processing Evaluation is a comprehensive review of the methods and procedures used to handle orders that have been manually submitted or require manual intervention by Ameritech during order processing. Testing will also consider manual processing of CLEC pre-order requests that Ameritech has not mechanized. Operational analysis techniques will be used to conduct this test. It will rely on the development of various checklists to facilitate a structured walk through of the order handling process. Additionally, practices related to the manual processing of orders will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

7.2 Objective

The objective of this test is to validate the processes and procedures used to support manual submission of orders for service and manual processing of electronically submitted pre-order and order transactions.

7.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Manual Orders Procedures	Test Manager
Interview checklist	Test Manager
Process review checklist	Test Manager
Interview list	Ameritech, Test Manager
Retail analogs	Test Manager/IURC

7.4 Test Scope

The table below outlines the processes and subprocesses involved in evaluating the timeliness, consistency, and accuracy of manual processing of orders.

Table V-7 Test Target: Manual Order Processes

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Receive Orders for Manual Processing	Order Receipt and Logging	Completeness and consistency of process	Inspection Document review	Qualitative Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Process Orders Manually	Entry of Order into AMERITECH SERVICE ORDERING SYSTEMS	Completeness and consistency of process	Inspection	Qualitative Parity
Send Order Response	Delivery of error messages and queries	Completeness and consistency of reporting process	Inspection Document Review	Qualitative Parity
	Delivery of confirmations and completions	Completeness and consistency of reporting process	Inspection Document Review	Qualitative Parity
Status Tracking and Reporting	Status tracking and reporting	Completeness and consistency of reporting process	Inspection Document review	Qualitative Parity
Problem Escalation	User-initiated escalation	Completeness and consistency of process	Inspection Document review	Qualitative Parity
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity
Process Management	General management practices	Adequacy and completeness of processing management practices	Inspection Document review	Qualitative Parity
	Performance measurement process	Adequacy and completeness of manual order processing performance management practices	Inspection	Qualitative Parity

7.5 Scenarios

Not Applicable

7.6 Test Approach

Input	Activities	Outputs
– Order handling methods and procedures – Retail analogs (as applicable) – Ameritech listing of order types that are designed to flow through and the exceptions that would cause the orders to require manual processing – Ameritech listing of pre-	– Review procedure documents – Interview Ameritech personnel – Monitor / walk through process – Observe management oversight system – Complete evaluation checklists and interview summaries	– Completed evaluation checklists and interview summaries – Summary report

order transactions that require manual processing – Evaluation checklists – Interview guides – CLEC data and interviews	– Develop and document findings	

7.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

8.0 Test PPR8: POP Work Center Support Evaluation

8.1 Description

The POP Work Center Support Evaluation is a comprehensive operational analysis of the work center/help desk processes developed by Ameritech to support Resellers and CLECs with OSS questions, escalations, problems, and issues related to pre-ordering, ordering, and provisioning. Basic functionality, performance and escalation procedures will be evaluated.

8.2 Objectives

The objectives of this evaluation are to:

- Determine completeness and consistency of work center/help desk processes and responses

- Determine whether the escalation procedure is documented and known to work center agents and management

- Determine the accuracy and completeness of procedures for measuring work center/help desk performance

8.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Work Center/Help Desk Evaluation Checklist completed	Test Manager
CLEC Problem Feedback Survey completed	Test Manager
POP Problem Response Survey with standard questions completed	Test Manager

8.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating the timeliness, consistency, and accuracy of handling work center and help desk activities related to pre-ordering, ordering, and provisioning performed by Ameritech.

Table V-8 Test Target: POP Work Center/Help Desk Support

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Respond to Help Desk Call	Answer call	Completeness and consistency of process	Inspection	Qualitative
	Interface with user	Availability of user interface	Inspection	Qualitative
	Log call	Completeness of logged information Log is kept in appropriate media for appropriate interval	Document Review Inspection	Qualitative
Process Help Desk Call	Access to systems to observe user problems	Ability to access user records and transactions	Inspection	Qualitative
	Resolve user question, problem or issue	Completeness and consistency of process	Documentation Review	Qualitative
Close Help Desk Call	Log closure information	Completeness, consistency, and timeliness of process	Inspection	Qualitative
Monitor Status	Track status	Accuracy and completeness of status tracking capability Availability of jeopardy notification	Inspection Document Review	Qualitative
	Report status	Completeness and consistency of reporting process Accessibility of status report	Inspection Document Review	Qualitative
Request Escalation	Manage escalations	Consistency and completeness of procedure	Document Review Inspection	Qualitative
Manage the Help Desk Process	Provide management oversight	Completeness and consistency of operating management practices	Inspection	Qualitative
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

8.5 Scenarios

Not applicable

8.6 Test Approach

Inputs	Activities	Outputs
– Applicable documentation	– Gather information	– Completed evaluation

– Evaluation checklists – Interview guides – Data from the TVV1 test (this data will be the source for the help desk calls) – CLEC data – Retail analogs (as applicable)	– Perform walk-through documentation reviews – Place and log Help Desk calls – Complete evaluation checklists and interview summaries – Develop and document findings	checklists and interview summaries – Summary report

8.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

9.0 Test PPR9: Provisioning Process Evaluation

9.1 Description

The Provisioning Process Evaluation is a parity and evaluative review of the processes, systems, and interfaces that provide provisioning for CLEC and Reseller orders. The test will also review the procedures, processes, and operational environment used to support coordinated provisioning with CLECs. The review will focus on these areas:

- Order interfaces

- Workflow definitions

- Workforce scheduling

- Memory administration

- Service activation

- Test and acceptance

- Exception handling

- Completion notices

- Coordinated provisioning

The focus of the evaluation will be "downstream" interfaces from manual processing and the gateway system that serves as the interface to all order processing.

As appropriate, provisioning processes for different products and services will be evaluated separately. This will be required in those cases where the process and/or systems used for provisioning are different by product.

The evaluation will address products and situations that require coordinated provisioning to minimize customer disruption. The requirement for coordination may come from either Ameritech policy or a CLEC request.

It is assumed that many of Ameritech's provisioning processes and systems for Wholesale and Retail are the same. The Test Manager will verify that equivalent processes and systems are used to provision orders to the extent that parity in these systems is required or asserted by Ameritech. An operational analysis test approach will be used to evaluate Ameritech's coordinated provisioning processes. It will consist of targeted interviews of key development personnel along with structured reviews of process documentation facilitated by an evaluation checklist. Case studies of actual coordination processes will be created or selected from live CLEC situations. Case studies will be selected and tracked to determine the ways in which the processes are carried out.

9.2 Objective

The objectives of this evaluation are to:

- Determine completeness and consistency of provisioning processes and to verify that the processes and systems utilized to provision retail and wholesale orders are in parity

- Determine whether the provisioning processes are correctly documented, maintained, and published

- Determine the accuracy, completeness, and functionality of procedures for measuring, tracking, projecting, and maintaining provisioning processes performance

- Ensure the provisioning coordination processes have effective management oversight

- Ensure responsibilities for provisioning coordination processes performance improvement are defined and assigned

9.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Detailed Provisioning Process Parity Evaluation Checklist developed	Test Manager
Required system documentation available	Ameritech
Provisioning process documentation available	Ameritech
Technical platforms specifications available	Ameritech
Databases specifications available	Ameritech
Data communications and interfaces specifications available	Ameritech
Interview guide/questionnaire developed	Test Manager
CLEC Case Study Request completed	Test Manager
CLEC Case Study Monitoring Form completed	Test Manager
Detailed Provisioning Coordination Process Checklist developed	Test Manager
Interviewees identified and schedule developed	Ameritech, Test Manager
Retail analogs	Test Manager/IURC

9.4 Test Scope

The table below outlines the processes and sub-processes involved in evaluating Ameritech's provisioning systems and processes to the CLECs and resellers.

Table V-9 Test Target: Provisioning Process

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Provisioning Process Parity	Order entry process (Ameritech internal)	Consistency and repeatability as compared to Retail	Inspection	Parity
	Workflow management	Consistency and repeatability as compared to Retail	Inspection	Parity
	Workforce management	Consistency and repeatability as compared to Retail	Inspection	Parity
	Service activation process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Service design process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Assignment process	Consistency and repeatability as compared to Retail	Inspection	Parity
	Service activation/ installation intervals	Consistency with Retail	Inspection	Parity
Support Provisioning Coordination Process	Provision orders requiring coordination with CLECs	Availability of personnel, procedures and methods	Document Review	Existence
		Completeness and consistency of processes	Document Review, Inspection	Qualitative
	Request coordination	Completeness and consistency of processes	Document Review, Inspection	Qualitative
	Notification of provisioning schedule	Completeness and consistency of processes	Document Review, Inspection	Qualitative
		Timeliness of notification	Document Review, Inspection	Qualitative
	Coordinate provisioning	Completeness and consistency of operating management practice	Inspection	Qualitative
		Controllability, efficiency and reliability of process	Inspection	Qualitative
		Completeness of process improvement practices	Inspection	Qualitative
Provisioning Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

9.5 Scenarios

Not Applicable

9.6 Test Approach

Inputs	Activities	Outputs
– Procedural and system documentation – Ameritech product and service ordering and provisioning process flow for complex and simple (i.e. POTS) services – Interviewees (per process area) 　– Provisioning process owners 　– Provisioning process staff 　– User requirements project leader – Evaluation checklists – Interview guides – Interview schedule – Appropriate methods and procedures (determined via interviews) – CLEC case studies – Retail analogs (as applicable)	– Gather information – Perform Ameritech interviews and documentation reviews – Compare and contrast systems used for Wholesale and Retail – Review CLEC case study input suggestions – Select and record case studies to monitor – Ispect physical systems and communications environments – Review case studies – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – CLEC case study submission and selection matrix – Summary report

9.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4
Ameritech's revised Loop Assignment process	Ameritech
Ameritech's revised Facilities Modification notificaiton process	Ameritech
Ameritech's revised Hot Cut process	Ameritech
Ameritech's revised Firm Order Confirmation (FOC) process	Ameritech

10.0 Test PPR10: Billing Work Center/Help Desk Support Evaluation

10.1 Description

The Billing Work Center/Help Desk Support Evaluation is an operational analysis of the work center/help desk processes and documentation developed by Ameritech to provide support to Resellers and CLECs with usage (Daily Usage Feed) and/or billing related claims, questions, problems and issues. Basic functionality, performance, escalation procedures, and security will be evaluated.

10.2 Objectives

The objectives of this evaluation are to:

- Determine completeness and consistency of work center/help desk processes, documentation and responses.

- Determine whether the escalation procedure is correctly documented, maintained, published and followed.

- Determine the accuracy, completeness, and functionality of procedures for measuring and tracking work center/help desk performance. Determine the accuracy, completeness, and functionality of procedures for projecting resource needs and maintaining work center/help desk performance.

- Ensure accuracy and completeness of reasonable security measures to ensure integrity of work center/help desk data and the ability to restrict access to parties with specific access permissions.

- Ensure the work center/help desk effort has effective management oversight.

- Ensure responsibilities for performance improvement are defined and assigned.

10.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Ameritech Billing Process and System specialists available for observation and interviews	Ameritech
Work Center/Help Desk documentation identified and available	Test Manager
Retail analogs	Test Manager/IURC

10.4 Test Scope

The scope of this test includes all processes, sub-processes, and measurements of the Billing Work Center test target, as shown in Table V-12 below.

Table V-10 Test Target: Billing Work Center/Help Desk Support

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Receive Help Desk Call	Answer call	Timeliness of call	Inspections	Quantitative Parity
	Interface with user	Usability of user interface	Inspections	Qualitative Parity
		Availability of user interface	Inspections	Quantitative Parity
	Log call	Existence of call logging	Document Review	Qualitative Parity
		Accuracy of call logging	Inspections	Quantitative Parity
	Record severity code	Compliance of call logging - severity coding	Inspections	Qualitative Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Process Help Desk Call	Resolve user question, problem or issue	Completeness and consistency of process	Documentation Review, inspections	Qualitative Parity
		Accuracy of response	Inspections	Quantitative Parity
Receive Claim	File claim	Completeness and consistency of process	Documentation Review, inspections	Qualitative Parity
		Accuracy of response	Inspections	Quantitative Parity
	Process claim	Completeness, consistency, and timeliness of process	Inspections, report review	Qualitative Parity
	Issue adjustment when necessary	Completeness and consistency of process	Documentation review, inspection	Qualitative Parity
	Disposition claim	Accuracy, completeness and reliability of disposition report	Inspections, report review	Quantitative Qualitative Parity
Close Help Desk Call	Post closure information	Completeness, consistency, and timeliness of process	Inspections	Qualitative Parity
		Accuracy of posting	Inspections, report review	Quantitative Parity
Monitor Status	Track Status	Existence of status tracking capability	Inspections	Existence Parity
		Consistency and frequency of follow-up activities	Document Review	Qualitative Parity
		Availability of jeopardy notification	Document Review	Quantitative Parity
	Report Status	Completeness and consistency of reporting process	Inspections, report review	Qualitative Parity
		Accuracy and timeliness of report	Inspections, report review	Quantitative Parity
		Accessibility of status report	Inspections	Quantitative Parity
Request Escalation	Identify escalation procedure	Existence of procedure	Document Review	Existence Parity
	Evaluate escalation procedure	Completeness of the procedure	Document Review	Qualitative Parity
		Consistency of the process	Inspection	Qualitative Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity
Provide Security and Integrity	Provide secured access	Completeness and applicability of security procedures, profiles, and restrictions	Document Review, Inspections	Qualitative Parity
		Controllability of intra-company access	Document Review, Inspections	Qualitative Parity
Manage the Help Desk Process	Provide management oversight	Completeness and consistency of operating management practices	Inspections	Qualitative Parity
		Controllability, efficiency and reliability of process	Inspections	Qualitative Parity
		Completeness of process improvement practices	Inspections	Qualitative Parity

10.5 Scenarios

Not applicable.

10.6 Test Approach

Inputs	Activities	Outputs
− Applicable documentation − Evaluation checklists − Interview guides − Data from the TVV8 and TVV9 tests (this data will be the source for the help desk calls) − CLEC data − Retail analogs (as applicable)	− Gather information − Perform walk-through documentation reviews − Place and log Help Desk calls − Complete evaluation checklists and interview summaries − Develop and document findings	− Completed evaluation checklists and interview summaries − Summary report

10.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

11.0 Test PPR11: Daily Usage Feed Returns – Process Evaluation

11.1 Description

The Daily Usage Feed Returns Process Evaluation is an operational analysis of the usage return process and related documentation used by Ameritech to accept, investigate and where necessary, correct Daily Usage Feed return requests from CLECs.

11.2 Objectives

The objective of this evaluation is to determine the accuracy, completeness and timeliness of the processes and documentation used to process and respond to Daily Usage Feed Return requests.

11.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Documentation on Daily Usage Feed Returns Process available	Ameritech
Interview and walk-through arrangements finalized	Ameritech
Retail analogs	Test Manager/IURC

11.4 Test Scope

The scope of this test includes the processes, sub-processes and measurements listed in the Table V-11 below.

Table V-11 Test Target: Daily Usage Feed Returns – Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Process Daily Usage Feed Returns Requests	Returned usage receipt	Completeness and accuracy of documentation and processes for creating, submitting and receiving returned usage	Inspections	Qualitative Parity
	Returned usage processing	Accuracy, completeness and timeliness of corrections	Inspections	Qualitative Parity
	Provision of status for all returned records	Accuracy, completeness and timeliness of status report	Inspections, report review	Qualitative Parity
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

11.5 Scenarios

Not applicable.

11.6 Test Approach

Inputs	Activities	Outputs
– Applicable documentation – Evaluation checklists – Interview guides – CLEC data – Availability of CLEC to initiate a DUF return – Retail analogs (as applicable)	– Gather information – Perform Ameritech and CLEC interviews and documentation reviews – Arrange and conduct CLEC DUF returns (if available) – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

11.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

12.0 Test PPR12: Daily Usage Production and Distribution - Process Evaluation

12.1 Description

The Daily Usage Production and Distribution Process Evaluation is an operational analysis of the processes and documentation used by Ameritech to create and transmit the Daily Usage Feed (DUF).

12.2 Objectives

The objective of this test is to determine the accuracy, completeness and timeliness of processes used to produce and distribute the DUF.

12.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-4
Documentation on subject processes available	Ameritech
Interview and walk-through arrangements finalized	Ameritech
Retail analogs	Test Manager/IURC

12.4 Test Scope

The scope of this test includes the processes, sub-processes and measurements listed in the Table V-12 below.

Table V-12 Test Target: Daily Usage Production and Distribution – Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Produce Daily Usage Feed	Balancing and reconciliation of Daily Usage feed.	Completeness of balancing and reconciliation procedures	Inspections	Qualitative Parity
	Route Daily Usage	Controllability of usage	Inspections	Qualitative Parity
Transmit Daily Usage Feed	Data transmission and cartridge tape delivery to CLEC	Completeness, consistency and timeliness of the process	Inspections	Qualitative Parity
Maintain and Re-transmit Usage History	Create Daily Usage backup	Reliability of repeatable process	Inspections	Qualitative Parity
	Retrieve and re-transmit Daily Usage backup data	Availability and timeliness of prior period usage data to CLEC	Inspection	Qualitative Parity
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

12.5 Scenarios

Not applicable.

12.6 Test Approach

	Activities	Outputs
– Applicable documentation – Evaluation checklists – Interview guides – CLEC data – Availability of CLEC to request re-transmission of DUF data – Retail analogs (as applicable)	– Gather information – Perform Ameritech and CLEC interviews and documentation reviews – Arrange and conduct DUF data re-transmissions (if available) – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

12.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

13.0 Test PPR13: Bill Production and Distribution - Process Evaluation

13.1 Description

The Bill Production Process Evaluation is an operational analysis of the processes employed by Ameritech to produce and distribute carrier bills.

13.2 Objectives

The objective of this test is to determine whether the processes employed by Ameritech to produce and distribute carrier bills ensure that those bills are accurate and are distributed to CLECs on a timely basis. The processes that enable a CLEC to request and obtain copies of previously received bills are also tested. Additionally, the bill production and distribution processes will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

13.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-4
Documentation on subject processes available	Ameritech
Interview and walk-through arrangements finalized	Ameritech
Retail analogs	Test Manager/IURC

13.4 Test Scope

The scope of this test includes the processes, sub-processes and measurements listed in the Table V-13 below.

Table V-13 Test Target: Bill Production and Distribution - Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Balance Cycle	Define balancing and reconciliation procedures	Completeness and effectiveness of bill balancing and reconciliation procedures	Inspections	Qualitative Parity
	Produce Control Reports	Completeness and accuracy in generation of control elements	Inspections	Qualitative Parity
	Release cycle	Compliance to balancing and reconciliation procedures	Inspections	Qualitative Parity
Deliver Bill	Delivery of bill media	Timeliness and controls of media delivery	Inspections	Qualitative Parity
Maintain Bill History	Maintain billing information	Timeliness and controllability of billing information	Inspections	Qualitative Parity
	Access billing information	Accessibility and availability of billing information	Inspections	Qualitative Parity

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Request Resend		Timeliness and accuracy of the delivery	Inspections	Qualitative Parity
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

13.5 Scenarios

Not applicable.

13.6 Test Approach

Inputs	Activities	Outputs
– Applicable documentation – Evaluation checklists – Interview guides – Retail analogs (as applicable)	– Gather information – Perform Ameritech and CLECobservations, interviews and documentation reviews – Conduct process observations and interviews. Daily Usage Feed Return testing should include tracing transactions back to the CLEC bill. Ameritech should produce a summary detail bill that will allow the CLEC to reconcile credits for usage returned. – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Summary report

13.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

14.0 Test PPR14: End-to-End M&R Process Evaluation

14.1 Description

This test will evaluate the functional equivalence of M&R processing for wholesale and retail trouble reports, by reviewing and evaluating the wholesale and retail process flow.

14.2 Objective

The objectives of this test are to evaluate Ameritech's wholesale M&R process, and the equivalence of Ameritech's end-to-end processes for trouble reporting and repair of retail and wholesale services. The end-to-end maintenance and repair process also will be compared with retail practices for parity, to the extent that specific retail analogs are identified.

14.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Wholesale & Retail M&R process flow documentation	Ameritech
Process Evaluation Checklists	Test Manager
Interview Guides	Test Manager
Retail analogs	Test Manager/IURC

14.4 Test Scope

Table V-14 Test Target: End-to-End M&R Process Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End M&R Process: Resale	Process Flow Documentation	Comparison with Retail	Inspection	Parity
	Process Evaluation	Completeness, consistency and timeliness of the process	Inspection	Qualitative Parity
End-to-End M&R Process: UNE/UNE Combinations	Process Flow Documentation	Comparison with Retail	Inspection	Parity
	Process Evaluation	Completeness, consistency and timeliness of the process	Inspection	Qualitative Parity
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

14.5 Scenarios

This test does not rely on scenarios.

14.6 Test Approach

	Activities	Outputs
– Retail and wholesale M&R process flow documentation	– Gather information	– Completed evaluation checklists and interview summaries
– Other applicable	– Review and compare wholesale and retail process flows	– Summary report

documentation – Evaluation checklists – Interview guides – Retail analogs (as applicable)	– Indentify differences between the two processes – Analyze the process – Assess the potential impact of each difference if possible – Document process flow analysis results – Complete evaluation checklists and interview summaries – Develop and document findings

14.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

15.0 Test PPR15: M&R Work Center Support Evaluation

15.1 Description

The M&R work center support evaluation is an operational analysis of the work center/help desk processes developed by Ameritech to provide support to CLECs with questions, problems, and issues related to wholesale trouble reporting and repair operations.

15.2 Objective

The objective of this test is to evaluate the effectiveness of M&R work center support operations and adherence to common support center/help desk procedures. An additional objective is to analyze the nature and frequency of problems referred to the work center to determine if they indicate potential problems in other M&R Domain areas.

Specifically, this evaluation is designed to:

- Determine adequacy, completeness and consistency of work center/help desk processes and procedures

- Determine whether expedite and escalation procedures are correctly documented and work effectively

- Ensure existence of reasonable security measures to ensure integrity of work center/help desk data and the ability to restrict access to parties with specific access permissions

- Determine the timeliness and accuracy in identifying and resolving problems

- Determine the existence and functionality of procedures for measuring, tracking, projecting and maintaining work center/help desk performance

- Determine the existence of Maintenance and Repair coordination processes and procedures, and other operational elements associated with M&R coordination activities between Ameritech and CLEC operations organizations

15.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Process Evaluation Checklist	Test Manager
Interview Guides	Test Manager
Required data and documentation provided	Ameritech

15.4 Test Scope

Table V-15 Test Target: Work Center Support Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Call Processing	Call Answer	Timeliness	Inspections Logging Interviews	Qualitative
	Call Logging	Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Prioritization	Existence Effectiveness	Inspections Logging Interviews	Qualitative
Problem Tracking and Resolution	Documentation	Clarity Accuracy	Document Review Interviews	Qualitative
	Identify and Resolve	Timeliness Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Track Problem	Existence Accuracy	Inspections Logging Interviews	Qualitative
	Log Status and Close	Accuracy Completeness Consistency	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
Expedite/ Escalation Procedures	Documentation	Existence Adequacy Accuracy	Document Review Interviews	Qualitative
	Call Answer	Accessability Timeliness	Inspections Logging Interviews	Qualitative
	Escalation Logging	Accuracy	Inspections Logging Interviews	Qualitative

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
	Identify and Resolve	Timeliness	Inspections Logging Interviews	Qualitative
	Log Status and Close	Accuracy	Inspections Logging Interviews	Qualitative
	Notify Customer	Timeliness	Inspections Logging Interviews	Qualitative
Work Center Procedures		Accuracy Completeness	Inspections Logging Interviews	Qualitative
Joint Meet Procedures	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Coordinated Testing	Process Documentation	Accuracy Completeness	Interviews Document Review	Qualitative
	Notification Procedures	Timeliness Accuracy	Interviews	Qualitative
Manual Handling — Resale		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Manual Handling — UNE/UNE Combinations		Accuracy Timeliness Consistency	Observation Logging Interviews	Qualitative
Capacity Management	Capacity management process	Adequacy and completeness of capacity management process	Inspection Document review Interview	Qualitative Parity

15.5 Scenarios

This test does not rely on scenarios.

15.6 Test Approach

Inputs	Activities	Outputs
– Applicable documentation – Evaluation checklists – Interview guides – Workcenter contact logs – Ameritech notification procedures for coordinated repair meetings and coordinated repair testing	– Gather information – Conduct Maintenance and Repair center visits – Conduct work center/help desk evaluations – Establish work center contact logs – Analyze and collate contacts by type – Complete evaluation checklists and interview summaries – Develop and document	– Completed evaluation checklists and interview summaries – Contact analysis results report – Summary report

	findings	

15.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4

16.0 Test PPR16: Network Surveillance Support Evaluation

16.1 Description

The network surveillance support evaluation is a review of the processes and other operational elements associated with Ameritech's network surveillance and network outage notification processes and procedures as they relate to wholesale operations.

16.2 Objective

The objective of this test is to determine the functionality of network surveillance and network outage notification procedures and to assess the performance capabilities of network outage notification procedures for wholesale operations.

16.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been met	See Table III-3

16.4 Test Scope

Table V-16 Test Target: Network Surveillance Support Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Network Surveillance	IOF Surveillance	Existence Reliability	Inspection	Existence Qualitative
	AIN Interconnect Surveillance	Existence Reliability	Inspection	Existence Qualitative
	SS7 Interconnect Surveillance	Existence Reliability	Inspection	Existence Qualitative
Outage Notification	Process Documentation	Accuracy Completeness	Inspection	Qualitative
	Notification Procedures	Timeliness Accuracy Completeness	Inspection	Qualitative

16.5 Scenarios

This test does not rely on scenarios.

16.6 Test Approach

Inputs	Activities	Outputs
– Applicable documentation – Evaluation checklists – Interview guides – Workcenter contact logs – Documentation of all notification and network surveillance procedures for wholesale	– Gather information – Conduct documentation review and procedure interviews – Conduct process analysis – Complete evaluation checklists and interview summaries – Develop and document findings	– Completed evaluation checklists and interview summaries – Contact analysis results report – Summary report

16.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria have been satisfied	See Table III-4

VI. Transaction Verification and Validation Test Section

A. Purpose

The purpose of this section is to describe the specific tests to be undertaken in evaluating the systems, and other operational elements associated with Ameritech's support for application-to-application, manual, and GUI (graphical user interface) transactions. The tests are designed to evaluate Ameritech's compliance to measurement agreements, ensure documented functionality exists and works properly, and provide a basis for comparing the operational areas to Ameritech's Retail Operations.

B. Organization

The Transaction Verification and Validation (TVV) test family is organized into three sections that represent the key focus areas for testing in this domain. These three sections are:

- Pre-Ordering, Ordering, Provisioning (POP) Transactions

- Maintenance and Repair (M&R) Transactions

- Billing Transactions

The test targets are further defined in the 'scope' section. The test processes are further defined in the 'test processes' section.

C. Scope

As identified above, the Transaction Verification and Validation test family is comprised of three test sections, representing important and generally distinct areas of effort undertaken by Ameritech. The three test target sections will verify and validate Ameritech's ability to support systems and processes that enable transaction processing.

Each test section is broken down into a number of increasingly discrete Tests, Processes, and Sub-Process Areas that serve a particular area of interest within the test section.

D. Test Processes

Nine tests have been designed to address the three test sections. The organization of the subject test processes is as follows:

TVV1:   POP Functional Evaluation

TVV2:   POP Volume Performance Tests

TVV3:   Order Flow-Through Evaluation

TVV4:   Provisioning Verification and Validation

TVV5:   M&R Functional Evaluation

TVV6:   M&R Performance Evaluation

TVV7:   End-to-End Trouble Report Processing

TVV8:   Billing Functional Usage Evaluation

TVV9:   Functional Carrier Bill Evaluation

1.0 Test TVV1: POP Functional Evaluation

1.1 Description

The POP Functional Evaluation is a comprehensive review of all of the functional elements of Pre-Ordering, Ordering, and Provisioning; the achievement of the prescribed measures; and an analysis of performance in comparison to Ameritech's Retail systems. The Test Manager will examine Ameritech's conformance with its documented specifications, and an analysis of its functional comparison to Ameritech's Wholesale and Retail systems. The test has two phases, a basic functional evaluation, and a comparative functional evaluation.

The test will include the submission of live transactions over three types of Ameritech-supported interfaces: 1) interactively via all available forms of graphical user interfaces (GUIs), 2) machine-machine interfaces (such as EDI and Common Object Request Broker Architecture (CORBA)), and 3) manually.

The following exhibit depicts the functionality and mechanism with which each interface is expected to be tested.

Table VI-1 Interfaces to be Tested

System	Pre-Order			Order		
	GUI	Machine-Machine	Manual	GUI	Machine-Machine	Manual
GUI	X			X		
EDI		X			X	
Manual			X			X

The machine-machine interfaces will be tested using interfaces built by/for the Test Manager according to specifications and processes provided to CLECs by Ameritech. The GUI will be tested through transactions entered directly into the TC Online interface. Manual transactions will be submitted as well.

Data on all of the POP processes will be collected and analyzed and used to produce the output reports. The POP Functional Evaluation will look at an end-to-end view of the pre-ordering through provisioning process. It will include a mix of stand-alone pre-ordering and ordering transactions, along with pre-order transactions followed by orders, supplements, and cancels. The Test Manager will collect data on transaction submissions and responses, and on provisioning activities. Where possible and appropriate, this information will be collected and maintained electronically. Both ASR and LSR orders will be tested. Erred as well as error free transactions will be tested. Not all orders will go through the physical provisioning process. Some will be future dated, and others will be canceled before provisioning activities commence. The verification and validation of the provisioning activities will be performed in TVV4.

As part of the POP Functional Evaluation, the Test Manager will also seek qualitative input and quantitative data on the "real world" experience of CLECs operating in Indiana. CLECs willing to participate in this test will be interviewed and their experiences will be incorporated into the test results after validation by the Test Manager. In addition, for some types of transactions, involvement will be sought from willing CLECs to participate in some aspects of the live transaction testing. CLEC participation will be important for complex orders that cannot be

simulated adequately in the test environment. Examples include complex facilities-based orders, and orders like those for unbundled loops with LNP which require an actual CLEC switch to fully complete. Since it is important to attempt to incorporate information to help control for "experiment bias" of the results, the Test Manager will ask CLECs for data that can be validated on live orders that replicate those sent over the test systems. As appropriate, some test orders may be sent over CLEC systems.

1.2 Objective

The objective of this test is to validate the existence, functionality, and behavior of the interfaces and processes required by Ameritech for pre-ordering, ordering, and provisioning transaction requests and responses. The test will evaluate the performance of the Ameritech interfaces and systems according to the performance metrics that are relevant for the pre-order and order transactions.

1.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
Interfaces are built and tested	Test Manager
Ameritech Interfaces are "certified" by Ameritech	Ameritech
Initial Ameritech measurement evaluation completed	Test Manager, IURC
Ameritech measurements available at the CLEC level	Ameritech
Measurement collection process is defined	Test Manager
Dial-up connectivity to GUI interface established	Test Manager, Ameritech
Product descriptions and business rules for all transactions to be tested are available.	Ameritech
Test bed databases and facilities in place	Ameritech
CLEC test volunteers identified	Test Manager
Test Scenarios developed	Test Manager
Test Cases developed	Test Manager
Specific Test Cases to test in conjunction with CLEC volunteers identified	Test Manager
Functional Checklist created	Test Manager
Specific Evaluation techniques developed	Test Manager
Evaluation Criteria defined and approved	Test Manager
Detailed "Go/No Go" checklist created	Test Manager
Help Desk log and contact checklists created	Test Manager

1.4 Test Scope

Ordering transactions consists of three distinct, but related, processes:

- Pre-Order Processing—submission of requests for information required to complete orders;

- Order Processing—submission of orders required to add/delete/change a customer's service; and

- Provisioning—physical work performed by Ameritech as a result of the submitted orders.

The Ordering Transactions test suite will be comprised of "real-life", end-to-end test cases that cover the entire spectrum of pre-order, order, and provisioning. The following order types will be tested:

- Migrate "as is"

- Migrate "as specified"

- New customer

- Feature Change

- Directory Change

- Number Change

- Add lines

- Suspend/Restore

- Disconnect (full/partial)

- Move (inside/outside)

- Number Portability (LNP)

- Line reclassification

- Change to New Local Service Provider

- UNE Loop Cut Over

The order types identified above will be ordered using the available and applicable Ameritech service delivery methods. The following service delivery methods will be tested:

- Resale

- Unbundled Loops

- UNE Platform

- EELs

- Other Unbundled Network Elements, including xDSL capable Loops

- Any other service delivery methods that may become available at the time of the test

The orders will be placed using Ameritech's existing interfaces: GUI, machine-machine, and manual. The following assumptions pertain to ordering interfaces:

- Orders and pre-orders will be sent over every applicable in-scope interface,

- Orders will be issued using both the ASR and LSR format, as appropriate, and

- The GUI will be tested from multiple terminals at the same time.

Other important aspects of ordering will be tested:

- "Flow through" order types, as stated and agreed-to by Ameritech, will be tested to ensure that they do not require manual handling,

- Supplemental orders (changes to orders in process), including cancels, will be tested,

- Multiple products and features will be tested; the tests will cover a broad range of the options available to CLECs and resellers,

- Multiple switch-types, end-offices and cities will be included in the test,

- A portion of the orders sent will be physically provisioned. Some orders will be future dated, allowing them to be canceled prior to work scheduling and provisioning,

- CLECs will be solicited for involvement in some aspects of the test, especially for assistance in the testing of complex services and services with long lead times,

- Data returned in pre-order responses will be analyzed to assess its usability in formatting and submitting order requests, and pre-orders only available via EDI and not GUI will also be submitted manually if the process exists.

- In addition to normal orders, orders with planned errors will be sent to Ameritech to check the accuracy of its system edits and LSC (Local Service Center) representatives.

Service locations supported by different Ameritech ordering, provisioning, and CO switching and transmission configurations will be tested.

The test will be conducted using the most current release of the Ameritech business rules at the time of the test. Any Ameritech updates to these rules released during the test period will be incorporated into the remaining orders, which may cause delays. In addition, any interface business rules and format changes necessitated during the course of the test to conduct the test scenarios stated in Appendix A, and which may lead to a Change Control initiative, will be included in the test transaction formats.

Documentation affecting the POP domain given to the CLECs and the resellers – training materials, interface guidelines, business rules, and other appropriate documentation – will be used to submit the transactions, and the accuracy and usefulness of this documentation will be evaluated.

The following chart (applicable to TVV1, TVV2, TVV3, and TVV4) contains the processes and sub-processes that will be used in evaluating Ameritech's pre-ordering, ordering, and provisioning functionality and performance:

Table VI-2 POP Processes

Process Area	Sub-Process
Pre-ordering	Retrieve customer CSR from Customer Information Systems
	Validate Customer Address
	Reserve and release telephone numbers
	Request information about services, features, facilities, and PIC/LPIC choices available to customers
	Determine due date/appointment availability
	Inquire about order status
	Inquire about Network Channel/Network Channel Interface codes (NC/NCI codes)
	Inquire about Connecting Facility Assignment (CFA)
	Request Loop Makeup Information
	Inquire about Working Telephone Number (WTN)
Ordering	Submit an order for the migration of a customer from Ameritech to a CLEC "as is"
	Submit an order for the migration of a customer from Ameritech to a customer "as specified"
	Submit an order for the partial migration of a customer from Ameritech to a CLEC
	Submit an order for establishing service for a new customer of a CLEC
	Submit an order for feature changes to an existing CLEC customer
	Submit an order for adding lines/circuits to an existing CLEC customer.
	Submit an order for a telephone number change for an existing CLEC customer
	Submit an order for a directory change for an existing CLEC customer
	Submit an order for an inside move of an existing CLEC customer
	Submit an order for the outside move of an existing CLEC customer
	Submit an order for suspending service of an existing CLEC customer
	Submit an order for restoring service to an existing CLEC customer
	Submit an order for disconnecting service from an existing CLEC customer
	Submit an order for disconnecting some lines/circuits for an existing CLEC customer
	Submit an order for migration of a customer from another CLEC
	Change service delivery method for an existing CLEC customer
	Order interoffice facilities
	Submit an order to convert a customer to a line shared Loop
	Receive order confirmation
Provisioning	Receive notification of jeopardy or delay
	Receive completion notification

Ameritech's pre-ordering, ordering, and provisioning functionality and performance:

Table VI-3 POP Evaluation Measures

Evaluation Measure	Evaluation Technique	Criteria Type
Pre-ordering and Ordering		
Clarity, accuracy and completeness of documentation	Document Review, Transaction Generation	Qualitative Quantitative
Accessibility of GUI (excluding Interoffice facilities)	Transaction Generation	Quantitative
Accessibility of machine-machine (excluding Interoffice Facilities)	Transaction Generation	Quantitative
Accessibility of manual processing (excluding Interoffice facilities)	Transaction Generation	Quantitative

Evaluation Measure	Evaluation Technique	Criteria Type
Accuracy and completeness of functionality	Transaction Generation	Quantitative
Timeliness of response	Logging	Quantitative
Accuracy and completeness of response	Transaction Generation, Inspection	Qualitative Quantitative
Clarity and accuracy of error messages	Transaction Generation, Inspection, Document Review	Qualitative Quantitative
Accuracy, responsiveness, and completeness of Help Desk support	Transaction Generation, Logging	Qualitative Quantitative
Usability of information	Transaction Generation, Inspection	Qualitative Quantitative
Consistency with retail capability	Inspection	Qualitative Quantitative
Consistency between data returned on pre-order responses and that required on order requests	Inspection	Qualitative
Provisioning		
Timeliness of provisioning	Transaction Generation, Inspection, Logging	Quantitative Qualitative
Frequency of delay or rescheduling of provisioning	Transaction Generation, Inspection, Logging	Quantitative Qualitative
Accuracy and completeness of provisioning	Transaction Generation, Inspection, Logging	Quantitative Qualitative

1.5 Scenarios

The specific scenarios to be used in this test can be found in Appendix A.

1.6 Test Approach

Inputs	Activities	Outputs
– Test scenarios and cases – Test case execution schedule – Certified interfaces – Documentation (order/pre-order business rules, etc.) – Trained personnel to execute test cases – Test "Go/No Go" checklist – Help Desk log and contact checklists	– Determine functionality of both Ameritech wholesale and retail ordering, preordering, and provisioning systems – Compare wholesale and retail functionality – Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s) – Interview CLEC volunteers and coordinate joint testing activities – Submit transactions. Submittal date and time and appropriate transaction information logged – Receive transaction responses. Receipt date,	– A Summary report comparing the relative functionality of Ameritech's Wholesale and Retail ordering, preordering, and provisioning systems – Reports that provide the metrics to support the standards of performance defined in Appendix D – Variance between actual performance and the standards of performance defined in Appendix D – Report of expected results versus actual test case results – Unplanned error count by type and percentage of total – Report of unplanned errors as the result of documentation problems

	time, response transaction type, and response condition (valid vs. reject) logged – Match transaction response to original transaction – Verify transaction response contains expected data and flags unplanned errors – Manually review unexpected errors. Identify error source (the Test Manager, or Ameritech). Identify and log reason for the error. Determine if test should be discontinued – Contact help desk for support as indicated in test cases and for unexpected errors following the appropriate resolution procedures. Log response time, availability, and other behavior of functions as identified on the help desk checklist – Correct expected errors and resubmit. Re-submittal date, time, and appropriate information logged – Identify transactions for which responses have not been received. Where multiple responses are expected for the same request, the receipt of each response will be monitored – Record missing responses – Review status of pending orders. Verify and record accuracy of response – Generate Systems/interface reports – Generate Ameritech metrics report for test date range – Compare Test systems/interface metrics to Ameritech retail metrics – Develop and document findings	– Rejects received after confirmation notification and percentage of total – Transaction counts, error ratio, response time, etc., by transaction type, product family, and delivery method – Minimum, maximum, mean, average, and aggregate response time/interval per transaction set – Transaction counts per response time/interval range per transaction set – Orders erred after initial confirmation – "Flow through" orders by order type, product family, etc. – Completed help desk logs and checklists – Help desk accuracy and timeliness report – Interface measurement reports – Measure of parity performance between retail and wholesale

1.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

2.0 Test TVV2: POP Volume Performance Tests

2.1 Description

The Volume Performance Test will identify the capacity and potential choke points, at projected future transaction volumes, of the Ameritech GUI and machine-machine interfaces and Ameritech systems and processes for responding to pre-ordering queries and for initial processing of orders. There will be three parts to the test: 1) a "normal volume" test using anticipated transaction volumes for available services and products for the time frame as determined by the IURC, with CLEC and Ameritech input, 2) a "peak" test using volumes at 150% (1.5 times) of the normal volume test, and 3) a "stress" test using volumes at 250% (2.5 times) of the normal volume test. The "normal volume", "peak", and "stress" tests will be conducted in Ameritech's production environment.

The Volume Performance Test will look at the performance of Ameritech's pre-ordering and ordering systems and processes from the submission of queries to the creation of internal service orders and the return of an order confirmation. The orders submitted in the Volume Performance Test will not go through the physical provisioning process. The test will include a mix of stand-alone pre-ordering and ordering transactions. Included in this mix will be planned errors—both business rules errors and flow-through drop-out errors. Transactions will be submitted using the GUI and machine-machine interfaces.

The volume tests will only run on certain days during the testing period. Transactions will be submitted throughout the entire transaction test period via GUI, manual, and machine-machine interfaces as part of the POP Functional Evaluation, including the days on which volume tests will be run. The exact timeframe for the volume test will remain unannounced to both Ameritech and the CLECs. There will be two 24-hour "normal volume" days of testing. There will be one 24-hour "peak" test. There will be one 4-hour, off-peak "stress" test. The "stress" test will be run during business, off-peak hours to limit the impact of the test on real customers. All the attributes and activities that apply to the POP Functional Evaluation for pre-ordering and ordering also apply to this test.

2.2 Objective

The objective of the Volume Performance Test is to measure Ameritech's capability and identify potential choke points of the manual, GUI, and machine-machine interfaces and systems put in place to access pre-ordering information and submit orders to Ameritech at projected future volumes.

2.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See Table VI-1.3
Agreement on volumes and distribution by scenario and entry mode	Test Manager, IURC
Test Scenarios selected	Test Manager
Specific Test Cases developed	Test Manager
Test Case execution schedule developed	Test Manager

2.4 Test Scope

The scope for this test includes the following test processes:

1. Pre-Ordering

2. Order Processing

2.5 Scenarios

The specific scenarios to be used in this test will be chosen from those found in Appendix A.

2.6 Test Approach

Inputs	Activities	Outputs
– Test Cases – Test case execution schedule – Documentation (pre-ordering/ordering business rules, etc.) – Personnel to execute test cases – Test "Go/No Go" Checklist – Help Desk log and contact checklists – Certified interfaces	– Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate handbook(s) – Submit transactions. Submittal date, time and appropriate transaction information are logged – Receive transaction responses. Receipt date, time, response transaction type, and response condition (valid vs. reject) are logged – Match transaction response to original transaction. Verify matching transaction can be found and record mismatches – Verify transaction response contains expected data and flag unplanned errors – Manually review unplanned errors. Identify error source (Test Manager or Ameritech). Identify and log reason for the error. Determine if test should be discontinued – Contact help desk for support as indicated in test cases and for unexpected errors following the appropriate resolution procedures. Log response time, availability, and other behavior of functions as identified on the help desk checklist – Identify transactions for which responses have not been received. Where multiple responses are	– Reports that provide performance metrics – Contact analysis results report – Variance between actual performance and standards of performance – Report of expected results versus actual results – Unplanned error count by type and percentage of total – Report of Unplanned errors as the result of documentation problems – Transaction counts, error ratio, response time, etc. by transaction type, product family and delivery method – Minimum, maximum, mean, average, and aggregate response time/interval per transaction set – Transaction counts per response time/interval range per transaction set – Orders erred after initial confirmation – Completed help desk logs and checklists – Help desk accuracy and timeliness report – Measure of parity performance between retail and wholesale – Summary report

| | expected for the same request, the receipt of each response will be monitored. Record missing responses
– Review status of pending orders. Verify and record accuracy of response
– Generate gateway systems/interface reports
– Compare gateway systems/interface metrics to Ameritech detail metrics
– Review gateway systems/interface Ameritech measures
– Develop and document findings | |

2.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

3.0 Test TVV3: Order "Flow Through" Evaluation

3.1 Description

The Order "Flow Through" Evaluation tests the ability of orders to flow through from the CLEC through the interface into the Ameritech ordering system, without any human intervention. Only orders that qualify as "flow through", orders not needing manual action, will be tested. The list of "flow through" types will be updated during the testing period. Additions and deletions to the list will be incorporated into the test.

As appropriate, "flow through" orders will be submitted through the GUI, and machine-machine interfaces. Any supplements and cancels that are considered to be "flow through" will also be submitted. The order transactions will be monitored to verify that they do not "fall out" for manual handling in the Ameritech work center. Orders will also be monitored to ensure that Firm Order Confirmations are received within the appropriate timeframes as defined in the performance metrics.

As a separate part of this test, the Test Manager will conduct an analysis of the Ameritech retail ordering functionality. Based on this analysis, a comparison of the "flow through" capabilities of the retail and wholesale systems will be made.

This test will be conducted as a part of the POP functional and normal volume testing (TVV1, TVV2).

3.2 Objective

The objective of the Order "Flow Through" Test is to verify the ability of Ameritech to flow through their front end systems, without manual intervention, all order types that at the time

the transactions are submitted as designated by Ameritech or otherwise considered to be "flow through".

3.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See Table VI-1.3
Documentation specifying which orders are expected to flow through	Ameritech
Test Scenarios selected	Test Manager
Specific Test Cases developed	Test Manager
Test Case execution schedule developed	Test Manager

3.4 Test Scope

The scope for this test includes the following test processes:

1. Ordering

3.5 Scenarios

The specific scenarios to be used in this test will be chosen from those that can be found in Appendix A.

3.6 Test Approach

Inputs	Activities	Outputs
– Test Cases and expected results – Test case execution schedule – Interfaces built and certified – Personnel to execute test cases – Test "Go/No Go" Checklist – Ameritech flow through documentation	– Compare order flow through capabilities of Ameritech wholesale and retail systems – Submit order transactions. Log submittal date, time and appropriate transaction information – Receive transaction responses. Log receipt date, time, response transaction type, and response condition (valid vs. reject) – Verify transaction response contains expected data and flags unplanned errors – Identify orders that had manual handling. Identify reason for manual handling. Record manual handling and order attributes – If there was an error that caused the order not to flow through, identify error source (Test Manager or Ameritech). Identify and log reason for the error. Ameritech errors will not be corrected by the Test Manager	– A summary report comparing the order flow through capabilities of Ameritech's Wholesale and Retail systems – Percentage and number of orders that flowed through by order type, product family, etc. – Percentage and number of orders that did not flow through by order type, product family, etc. – Orders that did not flow through by reason code – Variance between actual performance and the standards of performance defined in various arbitrated agreements – Report of expected results versus actual results – Report of orders not processed – Ameritech manual handling report – Summary report

	– Correct any Test Manager errors and re-submit. Verify orders now flow through – Verify that all orders submitted are accounted for. Log any orders that are submitted but do not appear as processed or erred by Ameritech – Generate Ameritech manual handling report – Generate gateway systems/interface reports – Compare gateway systems/interface reports to Ameritech Retail metrics – Develop and document findings	

3.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

4.0 Test TVV4: Provisioning Verification and Validation

4.1 Description

The Provisioning Verification and Validation test is a comprehensive review of Ameritech's ability to complete accurately and expeditiously the provisioning of CLEC orders. This test will be conducted as a part of the POP functional testing (TVV1). It will incorporate orders submitted via the following interfaces: manual, machine-machine, and GUI. While most kinds of orders will be included, the test will concentrate on those types of orders that require physical provisioning.

This test will involve verifying that orders submitted have been properly provisioned and that the provisioning has been completed on time. Included in the test will be orders that have been supplemented and canceled, as well as those submitted with anticipated errors, to test the impact on provisioning.

For some orders, particularly the more complex ones, the involvement of CLECs operating in Indiana will be solicited to volunteer use of their facilities to enhance the "real world" nature of the test. The CLECs will also be asked to provide data on their experiences with provisioning, after verification and validation by Test Manager.

4.2 Objective

The objective of this test is to evaluate the ability of Ameritech to accurately provision orders submitted by CLECs and to do so on time.

4.3 Entrance Criteria

Criteria	Responsible Party
All global entrance criteria	See Table III-3
All TVV1 entrance criteria	See Table IV-1.3
Test Scenarios selected	Test Manager
Specific Test Cases developed	Test Manager
CLEC volunteers identified	Test Manager
Provisioning log and activity checklists created	Test Manager
Test case execution schedule developed	Test Manager

4.4 Test Scope

The scope for this test includes the following operational reviews:

- UNE Loop migrations (including LNP)

- xDSL installations

- xDSL Line Sharing installations

- Analog, Digital, High Capacity and Interoffice Facility installation

- Disconnect and intercept messaging

- Provisioning completion notice reconciliation

- Directory listing reconciliation

- CSR update reconciliation

4.5 Scenarios

The specific scenarios to be used in this test will be chosen from those that can be found in Appendix A.

4.6 Test Approach

Inputs	Activities	Outputs
– Test Cases and expected results – Test case execution schedule – Provisioning documentation – Provisioning log and activity checklists – Personnel to execute test cases – Test "Go/No Go" Checklist	– Use test cases to develop transactions and transaction content based upon instructions provided in the appropriate documentation – Submit machine-machine transactions – Submit GUI and manual transactions – Receive confirmations of transactions – Log notification of provisioning jeopardies and delays – Perform joint provisioning activities and record	– Reports that provide the metrics to support standards of performance listed in Appendix D – Variance between actual performance and standards of performance listed in Appendix D – Report of expected results versus actual test case results – Completed provisioning logs and checklists – Help desk accuracy and timeliness report – Provisioning accuracy and timeliness report

	provisioning interactions – Perform testing on provisioned services – Test completion on orders. Record results in appropriate provisioning log and activity checklist – Generate gateway systems/interface reports – Compare gateway systems/interface metrics with Ameritech retail and other CLECs – Develop and document findings	– Gateway systems/interface to other CLEC comparison – Measure of parity performance between retail and wholesale – Summary report

4.7 Exit Criteria

Criteria	Responsible Party
All global exit criteria	See Table III-4

5.0 Test TVV5: M&R Functional Evaluation

5.1 Description

The M&R Functional Evaluation is a comprehensive review of all of the functional elements of the Ameritech Indiana's M&R Systems, Electronic Bonding Trouble Administration (EBTA) and the publicly provided GUI, their conformance to documented specifications, and an analysis of its functionality in comparison to Ameritech's Retail Residence and Business M&R system. The test has two major phases, Phase 1 — a basic functional evaluation, and Phase 2 — a comparative functional evaluation.

5.2 Objective

The objective of this test is to validate the existence and behavior of M&R functional elements as documented in CLEC M&R Training Guides and other applicable documents, and to evaluate the equivalence of CLEC M&R functionality to Ameritech Residence and Business M&R.

5.3 Entrance Criteria

Criteria	Responsible Party
Global Entrance Criteria have been satisfied	See Table III-3
Detailed Test Plan completed	Test Manager
Test Scenarios selected	Test Manager
Specific Test Cases and Transaction Sets developed	Test Manager
Product descriptions and business rules for all transactions to be tested are available.	Ameritech
Basic documentation review completed	Test Manager
Detailed Functional Checklist created	Test Manager
Test bed of working services selected and/or established	Ameritech

Criteria	Responsible Party
Specific Evaluation techniques developed	Test Manager
Physical access to Ameritech Web site established	Ameritech
Security access to M&R System established	Ameritech
Evaluation Criteria defined and approved	IURC
Checklists and Interview Guides created	Test Manager

5.4 Test Scope

CLEC M&R functionality will be reviewed within the context of specific documentation addressing its use and in comparison to Ameritech's retail Residence and Business M&R.

Table VI-4 Test Target: M&R Functional Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Trouble Reporting	Create/Enter Trouble Report (TR)	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Modify TR	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Close/Cancel TR	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Retrieve TR Status	Functionality exists as documented	Inspection	Existence Qualitative Parity
Trouble History Access	Retrieve Trouble History	Functionality exists as documented	Inspection	Existence Qualitative Parity
Access To Test Capability	Initiate MLT Test	Functionality exists as documented	Inspection	Existence Qualitative Parity
	Receive MLT Test Results	Functionality exists as documented	Inspection	Existence Qualitative Parity
Functionality	Functional Equivalence to M&R system	Existence of Specific Function	Inspection Interviews	Parity Qualitative

5.5 Scenarios

A subset of the Appendix A scenarios will be used in this test.

5.6 Test Approach

This test is broken down into two phases:

- Phase 1 involves the use of test cases created for this test to evaluate CLEC M&R functionality and to determine if the system(s) behave(s) as documented.

- Phase 2 involves observation and interviews of Retail Maintenance Administrators (MA) processing trouble calls and entering trouble reports into

Residence and Business M&R system to assess functionality in comparison to CLEC M&R.

Inputs	Activities	Outputs
– Test Cases – Documentation – Functionality checklists – Personnel to execute test cases – Personnel to interview Retail Maintenance Administrators and observe their use of Residence and Business M&R	Phase I – Use test cases created for this test and appropriate Ameritech documentation to perform each of the functions listed on the checklist provided via the EBTA M&R interface and GUI systems – Verify that each system function behaves as documented – Note any anomalies in the space provided on the checklist – Note any discrepancies between M&R documentation and behavior – Ensure that all trouble reports entered in M&R have been canceled Phase II – Use the checklist and interview guide to conduct interviews with MA's selected from the Residence and Business M&R work centers – Observe MA trouble report activities as identified on the checklist provided – Note the presence and behavior of functions identified on the checklist – Identify any anomalies relative to the functions being observed – Note any additional relevant information from the MA interview (e.g., additional capabilities, performance, etc.) – Determine and document any M&R functions that can be performed from a Retail Residence and Business M&R Workstation that are not available in CLEC M&R – Perform a detailed evaluation of relative functionality and capabilities between CLEC M&R and Retail Residence and Business M&R	– Completed checklists from Phases I and II activities – Completed interview summaries – Summary reports of findings from each phase, including a discussion of anomalies and relevant observations relating to usability and timeliness of each system interface – A Summary report comparing relative functionality in CLEC M&R and Retail Residence and Business M&R highlighting differences and contrasting ease of use of the two systems in performing the functions observed – Summary report

	Common Activities – Document the results and findings from the activities conducted in Phases I and II	

5.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
All activities completed	Test Manager
Checklists and reports completed by personnel participating in the test.	Test Manager

6.0 Test TVV6: M&R Performance Evaluation

6.1 Description

The M&R Performance Evaluation will identify the capacity and potential choke points at projected future transaction volumes for the Ameritech Maintenance and Repair systems. Both the Electronic Bonding Trouble Administration (EBTA) system, and the publicly available system (GUI) will be tested under load conditions. Both system evaluations will be conducted in three parts. These are: 1) a "normal" volume test suing anticipated M&R transaction volumes for the time frame finalized by the IURC, 2) a "peak" test using volumes at 150% (1.5 times) of the normal volume test and, 3) a "stress" test using volumes at 250% (2.5 times) of the normal volume test. The "normal," "peak," and "stress" tests will be conducted in Ameritech's production environment.

The M&R Performance Evaluation will look at the performance of Ameritech's maintenance and repair systems and processes from the submission of trouble transactions to the receipt of a response. Transactions will be submitted using the machine-machine and GUI interfaces.

6.2 Objective

The objective of this test is to evaluate the behavior of Ameritech's M&R systems under load conditions, to determine system performance in terms of response time and operability, and to identify future performance bottlenecks.

6.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Interface has been fully tested and is operational for the submission of test cases	Test Manager
Test transaction sets have been built and validated	Test Manager
Product descriptions and business rules for all transactions to be tested are available.	Ameritech
System test bed has been established	Ameritech
M&R test coordination details have been worked out	Test Manager

6.4 Test Scope

M&R performance will be evaluated under normal projected loads and in a stress/load test mode.

Table VI-5 Test Target: M&R Performance Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Performance	Projected Normal Loads	Timeliness Operability	Inspection Transaction Generation	Qualitative Quantitative
	Stress/Load	Timeliness Operability Capacity	Inspection Transaction Generation	Qualitative Quantitative

6.5 Scenarios

A subset of the Appendix A scenarios will be used in this test.

6.6 Test Approach

Test transactions will be sent to Ameritech's M&R system. The transaction sets are structured to provide a transaction mix consistent with current system usage, projected normal volumes, and stress/load volumes. Submission rates should mirror peak busy hour and peak busy day behaviors.

Inputs	Activities	Outputs
– Test Cases and transaction tests – Personnel to operate systems/interfaces – Personnel to supervise and observe test execution – Personnel to execute test cases – M&R systems and associated test beds – Systems/interfaces	– Feed transaction sets to Ameritech's M&R system – Observe and capture observations from above in terms of performance and operability – Capture transaction performance statistics via data test generator. – Capture transaction performance statistics via Ameritech's M&R system – Monitor M&R system interfaces to identify any bottleneck conditions (Ameritech system personnel) – Ensure that all generated trouble reports have been canceled/closed – Reset test bed for next test (if required) or clean up production databases (Ameritech) – Execute test once with normal, projected transaction volumes and once with stress/load volumes	– Test execution and observation reports – Systems/interface performance reports – M&R performance reports – Summary report

	– Analyze performance reports – Develop and document findings	

6.7 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4

7.0 Test TVV7: End-to-End Trouble Report Processing

7.1 Description

This test involves the execution of selected M&R test scenarios to evaluate Ameritech's performance in making repairs under the conditions of various wholesale maintenance scenarios.

7.2 Objective

The objective of this test is to evaluate Ameritech's performance in making repairs under the conditions of various wholesale maintenance scenarios.

7.3 Entrance Criteria

Criteria	Responsible Party
Global entrance criteria have been satisfied	See Table III-3
Test scenarios selected	Test Manager
Product descriptions and business rules for all transactions to be tested are available.	Ameritech
Test-bed circuits provisioned	Ameritech
Faults inserted into test-bed circuits as required by the test scenarios	Test Manager

7.4 Test Scope

Selected M&R test scenarios will be executed to evaluate Ameritech's performance in making repairs under the conditions of various wholesale maintenance scenarios. The following chart contains the processes, sub-processes, and methods for evaluating the End-to-End Trouble Report Processing test:

Table VI-6 Test Target: Execution of M&R Test Scenarios

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
End-to-End Trouble Report Processing – Resale	M&R Test Scenarios	Accuracy Timeliness	Inspection	Quantitative
End-to-End Trouble Report Processing – UNE/UNE Combinations	M&R Test Scenarios	Accuracy Timeliness	Inspection	Quantitative

7.4 Scenarios

A subset of the Appendix A scenarios will be used in this test.

7.5 Test Approach

Inputs	Activities	Outputs
– Test-bed circuits with embedded faults – Personnel to create trouble tickets and track the trouble ticket status for each scenario	– Conduct circuit test if applicable for each test scenario – Create and submit trouble ticket via Ameritech's M&R system – Periodically monitor each trouble report throughout its life using trouble report status transactions in Ameritech's M&R system – Note significant events in the trouble report life cycle (error occurrences, corrections, trouble ticket submission time, time cleared, etc.) – Calculate time to repair measurements for each test scenario fault repaired – Develop and document findings	– A time to repair measurement for each fault repaired – Summary report

7.6 Exit Criteria

Criteria	Responsible Party
Global exit criteria have been satisfied	See Table III-4
Time to repair measurements for repaired faults	Test Manager
Summary report of observations	Test Manager

8.0 Test TVV8: Billing Functional Usage Evaluation

8.1 Description

The Functional Usage Evaluation is an analysis of Ameritech's daily message processing to ensure usage record types including Access records, Rated records, Unrated records and Credit records appear accurately on the Daily Usage Feed (DUF) according to the defined schedule.

8.2 Objective

The objective of this test is to evaluate the following:

- Accuracy and completeness of all usage record types on the DUF including access records that should appear, not receiving records that should not appear, and not receiving empty set files.

- Timeliness of the DUF and access records delivery

8.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
Test bed completed and ready	Ameritech
Product descriptions and business rules for all transactions to be tested are available.	Ameritech
Techniques and instrumentation developed and approved	Test Manager
Ameritech resources are available to participate in the test	Ameritech
Detailed Test Plan completed and approved	Test Manager

8.4 Test Scope

Table VI-7 Test Target: Billing Functional Usage Evaluation

Process Area	Sub-Process	Evaluation Measure	Evaluation Technique	Criteria Type
Usage and Delivery	Track valid usage	Timeliness of DUF files and records	Inspections	Quantitative
	Account for no usage	Completeness of data	Inspections	Quantitative

8.5 Scenarios

Test calling is dependent on the provisioning process, which is dependent on scenarios. Some customers are subject to service changes (e.g. migrations from Ameritech retail to a CLEC, feature changes, etc.). Test calls and service changes will occur simultaneously. A subset of the Appendix A scenarios will be used in this test.

8.6 Test Approach

This test will use operational analysis to evaluate the accuracy and completeness of records contained in the DUF. This analysis will also examine the age of calls on the DUF. The evaluations will be accomplished by dispatching testers to various locations within Indiana. These testers will place test calls and will record information about these calls including the "call from" number, "call to" number, "bill to" number, call time and duration. The data contained in these Daily Usage Feeds will then be compared to the call logs. The Test Team will also record information about the contents of DUFs received by Test Manager.

Test calls will be made using some customer accounts that will migrate during the test period. Migration refers to the conversion of account ownership from one LEC to another. Test calls will be made from migrating accounts before and after the migration date to ensure accurate routing of data in the Daily Usage Feed.

For example, an Ameritech retail customer migrates to a CLEC during the test. Call made by the customer prior to migration should be routed to Ameritech. Calls made by the customer after migration should be routed to the new CLEC.

Test calls should be placed from around the Ameritech calling region. Test calls will be made throughout the workday. Test calls will include a variety of call types with the exception of 911, and will be placed from locations where 5E, Siemens and DMS switches are used. Local and toll test calls terminating on the test lines will also be made. These calls will be subject to evaluation.

Inputs	Activities	Outputs
– A provisioned Test-bed – Personnel to create and track tusage for each scenario	– Develop Test Call Matrices, which include test call logs for each location, on each day, for each originating phone number – Assemble tester resources, provide instructions and dispatch testers to calling locations – Complete calls and log results – Receive DUF files from Ameritech – Verify that appropriate data is on the DUF – Verify that calls that do not belong on the DUF are not on the DUF – Verify that appropriate calls present in the DUF match the testers call log – Identify DUF files that contain no billable records – Received in the DUF files, Test Team will validate the age of calls by determining the number of business days between the call date and the day the DUF file was created – Develop and document findings	– A report of the testers logs – A report showing the validation of calls made during the test – A Report showing the number of empty DUF files sent by Ameritech – Summary report

8.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

9.0 Test TVV9: Functional Carrier Bill Evaluation

9.1 Description

The Functional Carrier Bill Evaluation is an analysis of Ameritech's ability to accurately bill usage plus monthly recurring charges (MRC) and non-recurring charges (NRC) on the appropriate type of bill. An accurately billed item will contain the correct price and correct supporting information, such as start/end dates, duration, standard amounts, and discount amounts. This test will also evaluate the timeliness of bill delivery to the CLECs. Any billing system changes implemented during the course of the test will also be evaluated.

Ameritech will need to run a bill cycle from the initial test bed prior to any ordering and provisioning tests to use as a baseline set of bills.

Monthly charges will be examined for both Resale and UNE billing on Carrier Access Billing System (CABS) and Resale Billing System (RBS) bills. Table VI-9 reflects a number of key characteristics of Retail, Resale, and UNE billing information that will be used in the design of test cases. Information includes the various charge components and their destination bill.

Table VI-8: Key Characteristics Of Billing Information for Resale and UNE Customers

	Billing Component	Rating	Usage	Billing
Resale	Usage	CAMPS	DUF	RBS
Resale	MRC/NRC	ACIS	N/A	RBS
UNE	UNE loops, usage, MRC/NRC, and Combinations	ACIS/ CAMPS	DUF	CABS/RBS
UNE-Other	IOF, collocation	CABS	DUF	CABS
UNE-Other	High Cap Loops (DS1/3) MRC/NRC	CABS	N/A	CABS
Other	Directory Listings		N/A	
Retail	Non-unbundled Services MRC/NRC (Ancillary services)	ACIS	N/A	

ACIS: Ameritech Customer Information System
CABS: Carrier Access Billing System
CAMPS: Common Ameritech Message Processing System
RBS: Resale Billing System

9.2 Objective

This test evaluates the timely delivery of the bill and the accurate and timely appearance of charges on the appropriate bill. Appearance of charges will depend on the type of products ordered and/or class of service changes for resale and UNE. Details to be evaluated include:

- Appropriate prorating of charges for new and/or disconnected service
- Charges are accurate (order matches billing)

- Totals are accurate

- New/disconnected products appear (or do not appear) on the bill

- Bill dates are correct and match appropriate date from provisioning process e.g., order completion dates

- Adjustments appear on the bill

- Bills are delivered to CLECs and Resellers in a timely manner

- UNE billed on a usage basis are billed correctly, including the terminating access usage details for calls placed to UNE-P served end users

9.3 Entrance Criteria

Criteria	Responsible Party
All Global Entrance Criteria satisfied	See Table III-3
All Retail, RBS, and CABS baseline bills produced from the initial test bed	Ameritech
Test bed matches requirements.	Ameritech
Techniques and instrumentation developed and approved	Test Manager
Product descriptions and business rules for all transactions to be tested are available.	Ameritech
Test bed completed and ready	Ameritech
Calls made during Functional Usage Evaluation processed through to the DUF and available for billing.	Ameritech
Availability of Ameritech resources to test and produce RBS and CABS bills	Ameritech
Method for viewing bills implemented	Ameritech, Test Manager

9.4 Test Scope

Table VI-9: Test Scope for Carrier Bill Evaluation

Process Area	Sub Process	Evaluation Measure	Evaluation Techniques	Criteria Type
Maintain Bill Balance	Carry balance forward	Accuracy of bill balance	Inspection	Quantitative
Verify Billing Accounts	Verify Billing Accounts	Completeness and accuracy of extraction	Inspection	Quantitative
Bills and Delivery	Verify normal recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify one-time charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify prorated recurring charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify Usage Charges	Completeness and accuracy of data	Inspection	Quantitative
	Verify discounts	Completeness and accuracy of data	Inspection	Quantitative
	Verify adjustments (debits and credits)	Completeness and accuracy of data	Inspection	Quantitative

Process Area	Sub Process	Evaluation Measure	Evaluation Techniques	Criteria Type
	Verify late charges	Completeness and accuracy of data	Inspection	Quantitative
	Receive bill copy	Timeliness of media delivery	Logging	Quantitative

As part of this test, a variety of products and services will be ordered. This may result in many variations in billing presentation from the two primary billing systems (RBS and CABS). Relevant bill types will be selected for review based upon the product mix and anticipated charges as defined in the expected test results.

9.5 Scenarios

A subset of the Appendix A scenarios will be utilized for billing and usage testing purposes. The set selected will include:

- Test cases for 'migration/conversion' of customers

- Test cases for disconnects, new service (add/delete)

- Test cases for changes to services (modify)

All migration situations should be adequately represented:

- Ameritech to a CLEC

- CLEC to Ameritech

- CLEC to CLEC

The scenarios utilized for billing and usage testing will apply to all service delivery methods (SDM) available in Ameritech at the time of the test(s).

9.6 Approach

This test will use systems and operational analysis to evaluate the completeness and accuracy of charges that should appear on the bill based on usage information from the Functional Usage Evaluation and selected scenarios. Expected results will be defined for each test case.

Three bill periods will be processed for the same set of customers.

- The <u>first bill period</u> consists of the baseline bills where customers created for this test are billed for the first time directly from the initial test bed. These bills are produced prior to the execution of any transaction scenarios that affect selected customers.

- The <u>second and third bill periods</u> consist of bills produced after selected scenarios have been executed. This second set of bills will include items such as prorates, disconnects, migrations, adjustments, etc. Some customers will be created during the test execution, and will only receive second period bills.

Inputs	Activities	Outputs
– A provisioned test-bed	– Process service order changes	– A report showing each test
– Verified Baseline Bills and	– Develop expected results for	case, expected results, and

CSRs – Selected usage from the Billing Functional Usage Evaluation (TVV 8.0) – CSRs and completions from relevant TVV1 orders	each test case – Begin first bill period by receiving baseline bills – Record invoice bill date and actual date received – Validate test results for each applicable test case – Identify discrepancies – Receive Bills for next bill period – Receive CSRs for all cycles – Record invoice bill date and actual date received – Validate test results for each applicable test case – Identify discrepancies. – Complete second bill period. Repeat 7-11 until third bill period is complete – Develop and document findings	discrepancies – A report showing Ameritech bill delivery dates compared to the expected delivery dates based on the bill cycle date – Summary report

9.7 Exit Criteria

Criteria	Responsible Party
All Global Exit Criteria satisfied	See Table III-4

Appendix A: Test Scenarios

The scenarios listed in this appendix are based on a current understanding of the products and capabilities that are likely to be available at the time the test is executed. Depending on changes in availability, the scenarios may need to be modified before the test begins. Also, it should be noted that the scenarios will include variations such as planned errors and supplements to cancel, change an order, or revise due dates.

Resale

Activity	Res. / Bus. POTS	Res./ Bus. ISDN	Centrex	Private Line	PBX
Migration from Ameritech "as is"	X	X	X		X
CLEC to CLEC migration	X				
Feature changes to existing customer	X		X		
Migration from Ameritech "as specified"	X	X			
New customer	X	X	X	X	X
Telephone number change	X				
Directory change	X		X		
Add lines/trunks/ circuits	X	X	X	X	X
Suspend/restore service	X				
Disconnect (full and partial)	X	X	X	X	X
Moves (inside and outside)	X		X		
Convert line to ISDN		X			
Migrate from CLEC to Ameritech	X				
Convert POTS line to Centrex			X		

UNE

Activity	Res./ Bus. Analog Loop	Res. / Bus. xDSL Capable Loop	Line Share	Bus. DS1 Loop	Inter-office Facilility
Migration from Ameritech without number porting	X	X		X	
Migration from Ameritech with LNP	X	X		X	
Migration from CLEC to CLEC	X	X			
Add new loops to existing customer	X	X		X	
Add new interoffice DS1/DS3 facilities					X
Purchase loops for a new customer	X	X	X	X	
Disconnect (full and partial)	X	X	X	X	

Activity	Res./ Bus. Analog Loop	Res. / Bus. xDSL Capable Loop	Line Share	Bus. DS1 Loop	Inter-office Facillity
Moves (inside and outside)	X			X	
Standalone directory change	X	X			
Standalone LNP	X				
Convert from UNE-P to UNE loop	X				
Convert from Resale to UNE loop	X				
Migrate data service from Ameritech to CLEC			X		
Migrate voice service from CLEC to Ameritech			X		
Purchase dark fiber					X

UNE Platform

Activity	Res./Bus. POTS	Res. / Bus. ISDN
Migration from Ameritech "as is"	X	X
Migrate from CLEC to CLEC	X	
Feature changes to existing customer	X	
Migration from Ameritech "as specified"	X	X
New customer	X	X
Telephone number change	X	
Directory change	X	
Add lines/trunks/ circuits	X	X
Suspend/restore service	X	
Disconnect (full and partial)	X	X
Moves (inside and outside)	X	X
Convert line to ISDN		X
Migrate from CLEC to Ameritech	X	
Convert from Resale to UNE-P	X	X

Stand-alone Preorder

Activity	Residence/ Business
Obtain CSRs	X
Validate customer address	X
Reserve telephone numbers	X
Loop qualification (including xDSL)	X
Inquire about product/service availability	X
Determine availability of desired due date	X
Obtain Directory Listing information	X
Channel Facility Assignment (CFA) Inquiry	X
Network Channel/Network Channel Interface (NC/NCI) Inquiry	X

UNE EEL

Activity	Res./Bus. DS0	Bus. DS1 Loop
Migrate lines from Ameritech w/o number port.	X	X
Migrate lines from Ameritech with LNP	X	X
Add new lines to existing EEL	X	X
Purchase lines for a new customer	X	X
Convert customer from Resale to UNE EEL	X	
Disconnect (full and partial)	X	X

Stand Alone Maintenance & Repair

Activity	Res./ Bus. POTS	Res. / Bus. ISDN	Centrex	Private Line	PBX	xDSL UNE - Loop	Line Share
Short on outside plant facility	X				X	X	X
Open on outside plant facility	X	X				X	X
Short on the line within the central office	X		X	X		X	X
Open on the line within the central office	X	X	X	X	X	X	X
Noise on line	X	X				X	X
Echo on line	X					X	X
Customer w/ LNP not receiving incoming calls	X						
Customer receiving incoming calls intended for another customer's number.	X						X
Call waiting not working	X						X
Repeat dialing not working	X						
Customer cannot call 900 numbers	X						
Calls do not roll-over for customer w/ multiline hunt group	X		X				
Call forwarding not working	X						
Caller ID not working	X						X
Pick-up group order for large centrex customer not functioning properly			X				
DS1 loop MUXed to DS3 IOF not functioning.				X			
Customer's data not operational							X
CLEC requests MLT	X						

Appendix B. Normal and Peak Volume Test Section

A. Purpose

This section provides the methodology the Test Manager will use to define volumes required to evaluate the systems, processes and other operational elements associated with Ameritech's support of the competitive market. The purpose of the volume tests is to evaluate the ability of Ameritech's systems interface to process representative future wholesale transaction volumes to support competitors' entry into the market. These tests are performed at both peak and normal volumes. In addition, stress or capacity tests will be performed to test overall system capacity on selected transactions. None of the volume tests are intended to assess Ameritech's ability to provision future transaction volumes.

B. Scope

Scope is defined within each appropriate domain section. Statistical analysis of volume data will be performed in accordance with the statistical principles developed during the collaborative process and described in Appendix C of this document.

C. Data Development

Overall normal daily test volumes will be developed through a synthesis of information obtained from Ameritech and various CLECs. Three volume types will be addressed: pre-ordering, ordering (as part of the TVV2 Evaluation), and maintenance and repair (as part of the TVV 6 Evaluation). The development methodology will be consistently applied to each of the types.

Orders by product/service will be developed using the Ameritech and CLEC forecasts of competitive lines viewed by service and order type. The Test Manager will develop a proportion for each service and order type based on forecasted net adds, and then will extend the normal daily volume figure by that proportion to determine the daily volume by service and order type. The daily order volume of supplements and order changes/disconnects and moves (i.e., churn) will be calculated by applying historic factors to daily volumes by service and order type.

The peak volumes are planned to be 150% of normal volumes. The stress volumes are planned to be 250% of normal volumes.

Appendix C: Statistical Approach

A. Overview

This test will rely on standard statistical methods to evaluate Ameritech performance. Each test will define the data population to be observed, the measurements to be taken, and the statistical tests to be used. Data will be normalized, tabulated, and archived in a way that allows verification of test results and re-analysis of data using additional statistical methods, if appropriate.

B. Measures

The measures (metrics and their associated standards) that will serve as parameters for testing will be listed in Appendix D.

C. Sampling

In instances where sampling is used, sampling will be designed so that samples are sufficiently representative of populations with respect to the measures being studied to ensure that the resulting statistical inferences made about populations are valid. For most tests, simple random sampling will be used.

D. Hypothesis Testing

This test will employ a hypothesis testing approach to frame the analysis of test results. The standard "null" hypothesis will be that Ameritech is performing adequately. The possibility of an error arises if this hypothesis is rejected when it is true (Type I error) or is accepted when it is false (Type II error). An attempt will be made to balance Type I and Type II errors as much as is feasible.

E. Parity Tests and Non-Parity Tests

There are two basic types of tests. Parity tests compare an Ameritech retail average or percentage to a CLEC or test transaction average or percentage. The typical test for this type of comparison is a hypergeometric test for percentages and a two-sample t-test or z-test for averages. For those parity tests where sufficiently large samples can be drawn, hypothesis testing will be done by performing a "z-test" to calculate a "z-score." A z-score is a single number, which indicates the differences between sample data. A low z-score supports the hypothesis of parity (i.e., both CLEC and ILEC performance are from the same "population" in terms of performance). In cases where this test is not appropriate due to small sample size (for tests of averages) or assumption violations, other tests, such as permutation tests, will be performed.

Non-parity tests compare a percentage or average to a fixed standard or benchmark. In this case, the typical test is a binomial test or a one-sample t-test. Once again, alternative statistical tests will be used, where appropriate, based on tests of assumptions and sample sizes.

F. Results

Test results will include a summary of the statistics calculated, the hypotheses postulated for the test, and the conclusion(s) drawn based on the statistical results.

Appendix D: Performance Metrics and Standards

The Performance Metrics and Standards to be used for this test will be determined in accordance with the IURC orders and procedures developed in _____. Ameritech's performance measures web site is located at WWW.CLEC.SBC.COM.

Appendix E: Glossary

Term	Definition
271 Application	An application to offer long distance services from an RBOC to a state or federal regulatory agency. In order to grant this application, the agency must find the applicant is in compliance with the 14 point competitive checklist described in the 1996 Telecommunications Act.
ACIS	Ameritech Customer Information System for resale customers. All customer records are kept in this system.
AEBS	Ameritech Electronic Bill Service which creates monthly billing detail by state.
AEMS	Ameritech Electronic Messaging System. This front end system identifies what type of pre-order transaction was request.
ALPS	Ameritech Listing Publishing Services is the entity that publishes Ameritech's directory listings.
AMA	Automatic Message Accounting. A system that records and documents billing information for (long distance) calls made by a (corporate) subscriber.
ARES	Ameritech Records and Engineering System. This system contains the plant inventory, detailed loop make-up information, and load coil information.
ARIS/EXACT	Ameritech's Access Request Information System. This system receives the ASRs and validates and processes them. ARIS generates the service order formatted with the USOCs and FIDs.
ASC	Ameritech's Access Service Centers.
ASON/ACIS	Ameritech Service Order Negotiation System. The system in which orders are processed for Resale, UNE, and TNs.
ASR	Access Service Request. Form used to order interoffice facilities such as dedicated trunk ports.
Ameritech Pre-Filing Statement	A filing with the State of Indiana that lists commitments from Ameritech with regards to Ameritech's 271 Application.
Bill Certification	Process by which Ameritech demonstrates billing process management to its Reseller customers.
Bill Cycle	The grouping of customers for purposes of billing. An end-user normally belongs to one bill cycle. In Wholesale billing, all end-users belonging to the same bill cycle are aggregated onto a single CLEC bill. Assignments of cycle and period are accomplished by Ameritech. Bill cycles enable even distribution of a large number of customers so as to allow efficient use of computing resources and to mitigate risks associated with computer failures.
Bill Cycle Balancing	The procedure by which the charges associated with the inputs of a billing cycle are reconciled with the charges of the outputs of the billing cycle.
Bill Period	The length of time covered by a customer bill. Each end-user has one bill per bill period. CLECs receive one bill per bill period and bill cycle for all end-users belonging to that period and cycle. Assignments of cycle and period are accomplished by Ameritech.
Billing Domain	Tests related to creation of correct carrier bills.
Black Box	Internal processes within Ameritech's systems that are considered out of scope for the purposes of this test plan. Correct functioning of 'black box' systems can be inferred from input and output interface files.
BTN	Billing Telephone Number. The number to which charges from a given telephone service are billed.
BTN Accounts	Billing Telephone Number accounts. These accounts represent "dummy" phone numbers which are used to aggregate a Reseller's charges into a consolidated bill. Reseller's have several separate BTN accounts.

Term	Definition
CABS	Carrier Access Billing System that creates and maintains customer account information, receives service order input from PBSI, applies wholesale rates for elements using USOC rate tables, and creates a monthly bill by state.
CAMPS	Common Ameritech Message Processing System. The system upgrades the usage guide for the TN, accumulates and formats usage for the DUF, and rates resale usage.
CAP	Competitive Access Provider. Facilities-based carrier providing alternative access service.
CSR	Customer Service Record. Details of a customer's fixed monthly charges billed by the local telephone company.
Carrier Bill Code	Each bill format has its own unique code. Particular charges will cause the production of a specific bill format. The code is related to each product, and determines on which bill the product will appear.
Casual Usage	Usage dialed through a calling card or 10XXXXX.
Central Office (CO)	Facility where subscribers' lines connect to switching equipment.
Change Management	The process by which changes are introduced at Ameritech. Important steps include: 1) Advance notification that a change will occur; 2) CLEC input is considered when making changes; and 3) Smooth roll-out of the change.
CLEC	Competitive Local Exchange Carrier.
CLEC Live Data	Production data delivered through interfaces that are already operational for real CLEC customers.
Customer Account Record Exchange (CARE)	Industry standard for formatting exchange of subscription information.
Daily Usage Feed	A daily download of usage data from the switch which is delivered to Ameritech's's message processing system and directly to the CLEC.
Data-Driven Process	Scenarios tested through the creation of generated transactions, operations data, or live data.
DID number block	Direct Inward Dialing. A block of numbers reserved for a Centrex/PBX. DID allows internal dialing by entering only extensions.
Document review	Compilation and review of books, manuals, and other publications related to the process and system under study.
EBTA	Ameritech's Electronic Bonding and Trouble Administration system is where CLECs submit trouble tickets for maintance and repair issues.
EDI	Electronic Data Interchange. A process for exchanging information that is subject to industry standards.
EMI / EMR	Exchange Message Interface / Record. Standard format in which usage data is passed to the Reseller, as specified by Bellcore.
EXACT	Ameritech's Exchange Access Control and Tracking system provides mechanized order entry, control, and tracking support.
Entrance and Exit Criteria	The necessary conditions for starting or completing individual tests described in the Test Plan.
Evaluation Measures	Discrete set of measures to be applied to specific test components.
Existence Criteria Type	These are criteria where only two possible test results can exist (e.g., true/false, presence/absence), such as whether a document exists or does not exist.
Expected Results Worksheet	A report format that lists the expected results for each test while allowing the tester to record the current results of the test. This allows an easy comparison of numbers.
FID	Field Identifier. A code used when administering usage limits on residence and business end users. Also refers to fields of information used in the service order.
Firm Order Confirmation	A response from the Ameritech Service Order Confirmation that acknowledges a successful receipt of an order from a CLEC.

Term	Definition
Flow-through	An order placed by a CLEC's customer service representative that can be provisioned correctly without manual intervention by Ameritech's service representatives.
GUI	Graphical User Interface. A computer interface that allows users to access programs and enter data.
Good Management Practice (GMP) Guidelines criteria source	This includes benchmarks, performance goals, and guidelines derived from industry and topic area experts, Ameritech and CLEC performance targets, publications, academic journals and other sources.
ILEC	Incumbent Local Exchange Carrier. The local exchange carrier for a particular area as of 1996. Ameritech is the relevant ILEC.
Inspection	Physical reviews of process activities and products, including site visits, walk-throughs, read-throughs, and work center observations.
LATA	Local Access and Transport Area. A geographic area established by law within which a Bell Operating Company may provide telecommunications services.
LFACS/FACS	Ameritech's Loop Facility Assignment Center System and Facility Assignment Center. Ameritech's system that performs order analysis and control functions as well as building outside plant facilities. The system also assigns loop facilities and CO assignments.
LOC	Ameritech's Local Operations Center is the primary point of interfacefor provisioning and maintance issues related to unbundled network elements.
LSC	Ameritech's Local Service Center is responsible for processing the orders, is the interface for issues related to orders, and is the first escalation point for matters relating to orders.
Legal and Regulatory Requirements criteria source	This includes requirements specified by statute and regulation, such as FCC orders, court orders, IURC regulations, federal and state statutes, and other binding requirements resulting from judicial/governmental proceedings.
Logging	Monitoring activities and collecting information by logging process events and products as they happen. Logging can be mechanized or manual.
LPIC	Predesignated Intra-LATA Carrier, or Local Primary Interexchange Carrier. Telephone company chosen by the end user as being the default carrier for calls outside the local calling area, but within the same LATA. These are also known as regional toll calls.
LSR	Local Service Request. Form sent to Local Exchange Carrier requesting local telephone services.
MARCH	Ameritech system component that assigns the Central Office loop translations/line site and activates service based on due date information.
MDF	Main Distribution Frame. The primary point at which outside plant facilities terminate within a Wire Center for interconnection to other telecommunications facilities within the Wire Center.
MOR	Ameritech's Mechanical Order Receipt System is the centralized order translator.
MOR/Tel	Ameritech application which tracks order status and services and is the service center interface. It contains the state specific rules.
MWA	Ameritech's Mechanized Work Assignment system automatically assigns new ASRs to workgroups or individuals.
Maintenance and Repair Domain	Tests related to trouble administration.
Master Test Plan	Identifies the overall framework and structure of the test.
NSDB	Ameritech's Network Services Database system which receives assigned service orders and stores them in the network service database.
OCN	Operating Company Number. A 4 character code to identify any service provider. Specifically used to identify the Reseller on usage detail records.

Term	Definition
Operational Analysis	Operational analysis focuses on the form, structure, and content of the business process under study. This method is used to evaluate day-to-day operations and operational management practices.
OSS	Operation Support Systems. Systems used to perform pre-ordering, ordering, provisioning, maintenance and repair, and billing.
PAWS	Ameritech's Provisioning Analyst Workstation is an error manager for FACS.
PBSI	Ameritech's Provisioning and Billing System Interface communicates with FACS and CABS.
PIC	Primary Interexchange Carrier. The long distance company to which traffic is automatically routed when an end user dials 1+ in equal access areas.
PTE	Ameritech's Post TUF Editor system edits service order formats.
Parity Criteria Type	These are criteria that require two measurements to be developed and compared, such as whether external response time is at least as good as internal response time.
Performance and Capacity	Methods used to evaluate the performance and capacity of selected elements within the four domains. Relates to tests to determine if Ameritech's OSS can handle quantities of orders matching a reasonable forecasted demand.
Port	Point of access into a network.
Pre-Ordering, Ordering, and Provisioning Domain	Tests related to CLEC's acquisition of customer information, placing orders, and ensuring correct and timely provision and notification of order status.
Provisioning	The act of supplying telecommunications service or UNEs.
Qualitative Criteria Type	These criteria set a threshold for performance where a range of quality values is possible, such as level of customer satisfaction.
RBS	Ameritech's Resale Billing System. The system receives ACIS extract and applies wholesale rates to non-usage elements using the resale USOC rate table. It also receives rated usage from CAMPS and reformats.
RID	Ameritech's Reseller Information Desktop system applies term/volume discounts, performs installment billing calculations, and assesses late charges.
Recognized Standards Criteria Source	This includes widely recognized standards and guidelines promulgated by sanctioned industry and governmental organizations and other bodies.
Relationship Management and Infrastructure Domain	Tests relating to activities, processes and documents that are focused on the establishment and maintenance of the CLEC/ILEC relationship.
Report Review	Reviews and analysis of historical data, reports, metrics, and other information in order to assess the effectiveness of a particular system or business function. This includes performance measurement reports and other management reports.
Resource Center	Ameritech's center for CLEC OSS Interface trouble referrals.
SAG	Ameritech's Street Address Database.
SAM	Ameritech's Service Access Manager is a middleware system that provides a common way to interface with all systems. This system finds and formats the data from the legacy systems.
SOAC	Ameritech's system for Service Order Assignment and Control. The system receives service orders and routes the work components to the other provisioning systems.
SOD	Ameritech's Service Order Distributor. The system distributes errors and completion notices through MOR and then out to the CLECs.
SWITCH	Ameritech's Central Office Physical Switch Inventory System. The system provides activation and provisioning services for Central Office equipment and interfaces with MARCH for physical switch programming translations.
Scalability	The degree to which an application can be scaled to accommodate order of magnitude increases in transaction volumes and users.
Supplements	A change to an order taken after the original order was submitted, but before the order has been executed. Order execution should include all supplements.

Term	Definition
Suspend for Non-Payment	Collection Activity including suspension of outgoing calls (one-way), or both outgoing and incoming calls (two-way).
TC Online	Ameritech's internet website that contains the documentation CLECs need to conduct business in the Ameritech region.
TIRKS	Ameritech's Trunk Intergrated Records Keeping System which receives service orders and local assignments and reviews critical dates to determine priorities. TIRKS also tracks all jeopardies.
TN	Telephone number.
TUF	Ameritech's translator of USOCs and FIDs, translates ASRs into service orders.
Test Bed	A set of fictitious customers that are designed to assist with testing. The test bed consists of working lines and provisioned products, although the owning customer is fictitious. The test bed is used to test all Ameritech system functions. KPMG Consulting will build a test bed to meet testing requirements.
Test Call Matrix	A list of call types and the quantity of calls for each type that should be included in a particular test.
Test Domain	A specific testing area with defined targets, measures, scenarios, evaluation methods, and test processes.
Test Scenario Coverage Matrices / Traceability Matrices	A list of products or processes that are involved with each scenario. Describes how testing elements are traced from the compliance requirements through the test process.
Test Scenario Index	Master list of scenarios from which specific scenarios will be selected to be used in the testing.
Test Scenario to Metrics Analysis Index Cross Reference	For each scenario, a list of metrics that are examined during the test.
Test Scenarios	Scenarios describe realistic situations in which CLECs purchase wholesale services and network elements from Ameritech for resale to the CLEC's end-user customer on a retail basis.
Test Target	A discrete set of measures to be applied to specific test components.
Transaction Driven - GUI Cases	The GUI test method is applied to test cases that use the GUI approach in real-world actions.
Transaction-Driven System Analysis	Transaction driven system analysis relies upon initiation of transactions, tracking of transaction progress, and analysis of transaction completion results to evaluate the automated system under test.
Transaction Generation	Transaction generation is the use of live, historical, and/or generated data and data processing capability to evaluate an automated and/or manual system under test.
Unbundled Access	Ability of other LECs to access and use Ameritech network components to fill in gaps where these providers' networks do not have their own facilities.
Unbundled Loop	A transmission channel between an end user location and LEC central office that is not a part of, or connected to, other LEC services.
Unbundled Port	An interface on a local switching system that is not bundled with a loop or transport facility, and provides access to and from the switch and the functionality of the local switching system.
UNE	Unbundled Network Element.
USOC	Universal Service Order Code. A 3-5 character alphanumeric code that represents a product or service.
Verification and Validation	Methods used in the evaluation of activities and processes not amenable to data-driven testing, but which require verification and validation.
WTN	Working Telephone Number.

Appendix F: Negotiated Modifications and Enhancements

TBD